NORTHUMBERLAND AND DURHAM

MEDICAL SOCIETY.

SESSION 1887-88.

Newcastle-upon-Tyne :
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1887.

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Professor Annandale, Edinburgh.
B. Bramwell, M.D., Edinburgh.
Jonathan Hutchinson, London.
J. Spear, Local Government Board, London.
The Medical Officers of Her Majesty's Forces in the District.

NORTHUMBERLAND AND DURHAM
MEDICAL SOCIETY.

SESSION 1887-88.

OCTOBER MEETING.

The First Monthly Meeting of the session was held in the Library of the Royal Infirmary, Newcastle-on-Tyne, on the evening of Thursday, October 13th—Dr. Hume (President) in the chair.

THE ANNUAL REPORT.

Dr. Oliver submitted the Report for the Session 1886-87, which was as follows :—

ANNUAL REPORT OF THE COMMITTEE FOR 1886-87.

Your Committee beg to submit the following report.

During the session 14 new members were added to the Society; 11 were struck off for non-payment; 13 resigned or have left the district, making the total number of members 163.

The income of the year, including a balance brought forward of £81 5s. 5d., amounts to £157 15s. 5d., whilst the expenditure is £133 5s. 1d., leaving a balance in the hands of the Treasurer of £24 10s. 4d.

This increased expenditure is explained by the large amount which has been paid for the publication of the Transactions, and also by the publication of the Catalogue of the Infirmary Library, which was completed during the session and placed in the hands of the members.

The Committee view with pleasure the high scientific character of the work of the past session, and the healthy spirit and interest with which that work has been done—many of the exhibits and papers being of unusual value.

Dr. Philipson : In formally moving the adoption of the annual report, I have to congratulate the members upon the completion of the Library Catalogue, a work which has taken a great deal of time and trouble to compile. Now that it is completed, however, it makes the Library a much more valuable institution than it formerly was, and places all the works contained on the shelves within instant reach of the members.

Dr. Murphy : I have very great pleasure in seconding the adoption of the report, which is in every way satisfactory ; and I

heartily wish you, Mr. President, and the officials of the Society, a continuance of the success which has attended your efforts during the past session.

NEW MEMBERS.

The following gentlemen were unanimously elected members of the Society :—

William Slater, M.D., Newcastle-upon-Tyne.
Arthur John Gardner, L.R.C.P., Darlington.
Henry Hind, F.R.C.S.E., Stockton.
George Armstrong Atkinson, M.D., Newcastle-upon-Tyne.
H. Lyon Smith, L.R.C.P., Chester-le-Street.
Arthur Campbell, M.B., C.M., West Boldon.
John A. Jackson, M.B., C.M., Hexham.

NEW MEMBERS PROPOSED.

The following gentlemen were proposed for election :—

T. B. Martin, L.R.C.S. Edin., Millfield, Sunderland.
T. A. Collinson, M.R.C.S.E., Durham Infirmary.

EPITHELIOMA OF TONGUE.

Dr. MURPHY : This woman was operated upon by me last April for an epithelial cancer of the tongue, and I bring her case before you to-night on account of the comparative rarity of the disease among women, and also on account of one or two other points of interest in the case. As regards the unusual occurrence of the disease in females, only about 15 per cent. of the total cases of epithelioma of the tongue occur in women. Another point of interest in this case is the rapidity with which the stump healed. The method was Whitehead's, and the operation was performed on the 26th of April last, and the woman left the hospital on the 5th of May with the wound perfectly healed. The patient, on her admission to the Sunderland Infirmary, was suffering from severe chronic bronchitis of many years standing, and though this might have contra-indicated operation, she stood the chloroform well, and recovered without a bad symptom.

CASE OF GASTROSTOMY.

Dr. MURPHY : This man, when he came under my care at the Sunderland Infirmary, was suffering from stricture of the œsophagus, and was unable to swallow even a teaspoonful of fluid. Unless we were prepared to suffer him to die of starvation, it was imperative that something should be done, and gastrostomy was decided upon. In selecting the site of operation, I followed the advice of M. Tillaux, mapping out the triangle on the epigastrum, as pictured in his book, and copied into most of the English text books on surgery. I then cut through the

skin and rectus muscle in the way recommended by Mr. Howse; and, in securing the stomach to the abdominal wound, I again followed the recommendation of Howse, and inserted a double row of sutures. On the sixth day I opened into the stomach, and the patient was fed with a small quantity of milk, passed through a tube. The quantity of nourishment administered in this way was gradually increased, till now he is getting 40 ounces of milk daily, with strong soups, egg-flip, and beef-tea. The stricture in this case arises undoudtedly from malignant growth, and it will be a matter of interest to see how long this patient will survive the operation. Dr. Page reports a case where his patient lived 78 days after gastrostomy, while Bryant had one going on for three months; and Duncan, of Edinburgh, had a patient who lived for two years after the operation.

Dr. DRUMMOND: These cases are interesting to me from a pathological point of view. I remember a case which I saw in consultation with Dr. Page. This patient had a tight stricture of the œsophagus of undoubtedly malignant character. These cases as a rule die before the malignant tumour has had time to grow to any size. In the case, however, to which I refer, gastrostomy was recommended, and was performed, the patient living for seven or eight months after the operation. I had an opportunity of seeing the constricting tumour *post mortem*, and found that it had increased to an enormous size, thus proving that these growths of the œsophagus, when time is allowed them, can grow to as large a size as cancerous deposits elsewhere.

Dr. HUME: The question as to when one should operate in these cases is not always an easy one to decide. The other day a man was sent in under my care in this Infirmary. He is suffering from a stricture of the œsophagus, which is, I doubt not, of a malignant nature. He cannot swallow solid food of any kind, even boiled bread and milk being beyond his capacity. But on the other hand fluids pass quite easily, and he is able to take large quantities of milk and soups, sufficient at any rate for his sustenance, and on that ground I have decided not to operate in the meantime.

Dr. MURPHY: In my case the patient had not and could not swallow a single drop for the previous two days, so that immediate steps had to be taken to alleviate the condition. There is one point I wished to refer to, and that is the mortality of gastrostomy. Surely the mortality of the operation must be very much overrated when it is put down at 70 to 80 per cent. I do not think that any surgeon experienced in abdominal work should have such a mortality as that.

P.S.—The patient is still well, and gaining flesh on the 61st day after operation.

LOCOMOTOR ATAXIA.

Dr. DRUMMOND: I venture to bring before you to-night three cases of locomotor ataxia, in each of which I think the members will find some points unusual in character and of considerable interest. The first is this man, 40 years of age, who for the last two years has suffered from symptoms pointing to locomotor ataxia. His sufferings began with severe gastric crises, so severe that on each recurrence he has had to take to his bed, and the only relief obtainable was the hypodermic use of morphia. These attacks usually last a week and then gradually subside. This gastric condition still continues, and you will observe that the patient presents the Argyle Robertson pupil, and other less marked symptoms of tabes. What is remarkable about the case, however, is that he has not got the ataxic gait, and for that reason, perhaps, I should not describe the case as one of locomotor ataxia. What is also of still further interest is the fact that he still retains the knee jerk; not very marked, perhaps, but still distinctly present. There is a specific history in this patient's case.

The unusual character in this second case is that the disease began three years ago with occular paralysis. You will notice that this is very marked, and that the pupils instead of being contracted are dilated, and that there is ptosis on the left side, and that eye is also smallest turned outward.

In the third case the disease began in a paralysis of the third nerve. What makes this case one of very great interest is the youth of the patient, he being only 24 years of age. He has suffered from syphillis, and the symptoms of locomotor ataxia have existed for three or four years.

Dr. WATSON (South Stockton): Might I ask Dr. Drummond if in his experience he has ever found locomotor ataxia to arise as the remote result of injury? I recall the case of a man who fell from a height, injuring himself severely; and, some time after the accident, he developed several marked symptoms of locomotor ataxia. These symptoms are now, I believe, somewhat less prominent. His eyes, however, became so much affected that one of them had to be operated upon, and I believe the other eye is now nearly useless.

Dr. DRUMMOND: In many cases, I believe, such accidents are the result, not the cause of locomotor ataxia. The victim may be suffering from convincing locomotor ataxia; he got up a height, loses his balance, and falls as the result of the disease which is in its developing stage. Dr. Watson's case might have been one of alcoholic neuritis.

Dr. WATSON: I do not think so. The man was a steady workman.

SUPRA-PUBIC LITHOTOMY.

Mr. PAGE: Last session, sir, several cases of supra-pubic lithotomy were brought before the Society. The patients were all males. The youngest was about 14 years of age. They all did well. You will no doubt remember the expressions of opinion to which these cases gave rise. Others have been reported in the medical journals, since our last meeting, from different parts of the kingdom, but still the question which the revival of the supra-pubic method has raised is undecided. Is the supra-pubic operation to take the place of lateral lithotomy, or is it to be resorted to, as heretofore, only when there is some special reason, such as the size of the stone, the condition of the prostrate, &c.? That, I take it, is the issue raised. The answer will only come after the results of a great number of cases have been recorded. No opinion, however authoritative, will settle the matter. This small stone was removed from the bladder of a child four years of age, by the high operation, through a wound not much more than an inch in length. The bladder was not sutured, and, fourteen days after operation, the boy left the hospital, the wound having healed three days previously. I see no reason why a similar result should not, under similar circumstances, be repeated, and become the rule. It is quite true that lateral lithotomy on young children is generally successful, but Liston, Cadge, G. Y. Heath, and, indeed, I may say, most surgeons who have practised lithotomy largely, warn us of special difficulties and dangers in removing stones from young children by lateral lithotomy. Lateral lithotomy on young children is occasionally a most difficult operation, and, when fatal, in nine cases out of ten death arises from some misadventure during the operation. But, when all goes well, the wound is deep, and I have never known it to be healed soundly and completely in so short a time as ten days.

Dr. HUME: In this connection I should like to mention a case characterised by several features of practical importance. The case was that of a lad 19 years of age, who for many years had suffered from the presence of stone in the bladder. The bladder had become contracted, the urine was constantly dribbling away, and physically the lad was a very poor subject. On him I performed the supra-pubic operation, and removed the stone. So long as the wound was contracting, and before the urine began to pass by the *vias naturales*, I was all right, and did fairly well. So soon, however, as the water began to pass per urethram he began to go back, and developed a rather bad attack of interstitial nephritis. The lad, as a matter of fact, was the subject before the operation of what we call surgical kidney; and so long as drainage was free he did well, but after the wound had healed the reflected

pressure from the bladder set up the kidney mischief, and the patient ran a serious risk, though ultimately he recovered.

Dr. Anderson (Seaton Delaval) : I should be very glad to hear that the supra-pubic operation was in every case so simple and so successful as in that reported by Mr. Page. When, however, Mr. Page says that the lateral operation in children is attended by very great risks and difficulty, I am not at one with him. I do not wish to minimise the risks of such an operation, but I do not think it is one of such very great difficulty as some would make it out. It is not a very difficult matter to pass a sound into the bladder, and cut on that into the viscus. But it is the matter of drainage which would make me very reluctant to give up the lateral operation, which, I may say, I have performed a great many times on children without a death, in favour of the supra-pubic. With the dependent wound of the lateral operation your drainage is perfect; through the supra-pubic wound it is anything but satisfactory. It will take more than has yet been advanced in favour of the high operation to make me forsake a method which I have hitherto found not particularly difficult, and till now entirely successful.

Dr. Murphy : When I hear my friend, Dr. Anderson, talking so cheerily about the ease and simplicity with which the operation of lateral lithotomy is performed, I cannot but think that his knowledge of the operation is confined to his own practice, and that he charitably assumes that all operators have his skill, and have been blessed with like success. But I can assure him that such is not the case ; and, with the exception of cases of abdominal section, there is probably no operation which has given rise to more catastrophies than that of lateral lithotomy. The late Mr. Smith, of Leeds, who was one of the most skilled and successful lithotomists in England, used to declare that no operation gave him more uneasiness or anxiety ; and originated the phrase, which to this day is current in Leeds, where, when a man feels particularly uncomfortable about anything, he says that it gives him a "lithotomy sensation." Personally, I am thankful to say, in the very few cases I have had, I have been fortunate not to have any accident occur ; but in the last two cases that I have seen done the rectum was opened. (A Member : "Oh, that is nothing.") Well, one of these died, and the other is wandering about the country seeking relief from a recto-urethral fistula, for which he has been unsuccessfully operated upon by several surgeons, myself among the number. Both those cases occurred in the practice of a very excellent surgeon, of large experience in lithotomy. I have also seen the late Mr. John Hamilton fail to find a stone, which was passed a week afterwards through the wound ; and I have seen a surgeon of very large experience in an

operation empty nearly the whole contents of the pelvis in a vain endeavour to find a stone, which was afterwards discovered in the bucket underneath the table. Many minor accidents I could tell of to show that, however easy and simple this operation is in theory, it is not so in practice. As regards the comparative advantages of supra-pubic and lateral lithotomy, my experience is too limited to give a decided opinion, as stone is almost an unknown disease in Sunderland ; and though our friends outside the town are good enough to send us some cases at the end of the year, we find the number is very small. My friends, Sir William McCormack and Mr. McGill, who have now had considerable experience of the supra-pubic method, are ardent advocates for it, and have tried to convince me of its superiority. Still, for the present, I am inclined to lithotomy (in one sitting) for all suitable cases—lateral lithotomy for small stones, and the supra-pubic for large ones; and I may add that I have found the crushing operation a more difficult one than that of cutting.

Mr. Page: I am very glad that I have succeeded in eliciting some expression of opinion on this question of the high against the lateral operation. For my own part I do not think that the question can ever be decided by the practice of this district, since in this part of the country stone in the bladder is of rather infrequent occurrence. I should say that Dr. Anderson's experience of the lateral operation must be confined to his own practice, for those surgeons who have had the most experience have met with by no means the same amount of success as he has. The difficulty of the lateral operation is an historical difficulty. Liston and Cadge warn us of the very great danger there is in performing lateral lithotomy on children, of pushing the bladder up in front of the finger, and never entering its cavity at all. Dr. Murphy has asked me in regard to suturing the bladder. I think in case of a large wound in the bladder I should suture; and if that could be done so as to render the viscus water-tight, we should then have a perfect operation.

A CASE OF AUTO-HERNIOTOMY.

Dr. Murphy : It is said, sir, that the physician who prescribes for himself has a fool for his patient; but in the case which I am going to relate the operator had a lunatic for his patient. The patient was a seafaring man, who had suffered for a long time from a right inguinal hernia. He had only returned home the day before I saw him, and during the night he was seized with intense pain and sickness, and he found he was unable to reduce the hernia, which had come down ; in fact, he had all the symptoms of strangulated hernia. Finding that the usual means were inoperative, he got a razor, and, seizing the hernial tumour,

he cut through the entire swelling. My friend, Dr. Collie, who had been called in, sent for me to assist him; and on my arrival I found these pieces, which the lunatic had severed from himself. They consist, as I show you, of the right testicle and spermatic cord, and this large mass of omentum. Fortunately, there was no bowel in the protruded mass. The only hæmorrhage of any consequence came from the spermatic vessels, and these we tied. The man having gone so far with the operation, we decided that it was a very favourable case for performing a radical cure, and this accordingly we did by Mitchell Banks' method. When we arranged to meet on the case next morning we hardly expected to find our patient alive, he had lost such a quantity of blood, and were agreeably surprised to find him doing fairly well when we called. He made a good recovery, and is now an inmate of Sedgefield Asylum. When last seen by me there was no appearance of a return of the hernia, but Dr. Smith, of Sedgefield, informs me that there lately has been a slight bulging at the seat of operation.

ANEURISM OF THE AORTA.

Dr. Oliver: I bring this specimen of thoracic aneurism before the Society to illustrate one of the modes of death in aneurism. It was removed from the body of a young man aged 35, an iron-worker, who was brought to the Infirmary a few weeks ago in a condition of complete asphyxia. When seen by Mr. Waldy, our house physician, in the accident room, his condition was so critical—being one of extreme lividity, and the pulse imperceptible, and breathing all but ceased—that, without making anything but the most cursory examination, Mr. Waldy at once cut down upon the trachea with a pocket knife, and inserted a piece of stiffened œsophageal tubing into it. Air almost immediately rushed into the lungs, and, by means of artificial respiration, breathing was soon re-established. The man, however, did not regain consciousness, and in this condition he was carried upstairs, where every now and again the breathing would cease, and artificial respiration had to be resorted to. When I saw him several hours after the operation he was still unconscious, extremely livid, had a small pulse, and the breathing was irregular. There was no dulness detected over the sternum, nor could a bruit be heard anywhere in the chest; the sounds of the heart were healthy. Taking the end of the œsophageal tube into one's fingers, a tumour could be felt pulsating against it in the trachea. Consciousness was never regained; left-sided convulsions came on, and patient died eight or ten hours after the operation. At the *post mortem* we found the heart healthy, and arising from the posterior part of the arch of the aorta this aneurism, about the size of a pigeon's egg, filled

with clot, and firmly incorporated with the trachea, and causing a prominent bulging inside the trachea, so as almost to obliterate the calibre of the tube at a point immediately above its division into the main bronchi. The mucus membrane, which lies upon it, is roughened, and in it a small pin-head perforation can be seen. The arteries of the brain were semi-filled with solid black blood, part of which had clotted—a point of some interest, and explained either by the heart itself being too feeble to drive the blood through the system, or the resentment of the tissues to the entrance of the poisoned or extremely carbonised blood. Nothing was found in the condition of the brain to explain the one-sided seat of the convulsions. The case is of interest, owing to the absence during life of any of the ordinary physical signs of aneurism—viz., murmur and dulness on percussion. Beyond an attack of dyspnœa a fortnight before his admission, there had never been anything to lead the patient to infer that he was ill. All this is explained by the seat of the aneurism, for, as you see, arising as it does from the posterior part of the arch, it has passed backwards, avoiding the pneumogastric nerve and its branches on either side.

OVARIAN CYSTOMA.

Mr. Rutherford Morison : These ovaries were removed from a patient 28 years of age, married a year, and without children. The reason for the operation was hæmorrhage, so severe as to endanger life, with distinct evidence, on physical examination, of ovarian disease, and nothing else to account for her illness. Dr. Oliver, under whose care the patient had been, was of opinion that an operation was the only means likely to cure her condition. I will not occupy your time with medical details, as I hope to hear from Dr. Oliver, who has shown a very kind interest in the case, an abler account than I could give.

The results, immediate and remote, were fully explained to the patient and her friends, who wished the operation done, knowing all about it. The operation presented no unusual difficulty. On both sides the ovaries were adherent, and in removing each of them a cyst was ruptured, its contents escaping into the peritoneal cavity, and this necessitated some sponging. The parts removed may be described as commencing ovarian tumours, the right side being more advanced than the left. The patient had no bad symptoms after the operation, and is now cured.

Dr. Oliver : Through the kindness and courtesy of Mr. Morison, I was present at this operation. Immediately prior to it Mr. Morison wrote to me, asking my opinion about the case, as the patient had previously been under my care. My reply was that nothing short of removal of the ovaries would save the

patient's life. Her history is simply this: She was admitted under my care in the month of June last, blanched and extremely ill after a severe uterine hæmorrhage. She was married, and 26 years of age. From the age of 15 to 20 she enjoyed good health, but suffered from pain at her menstrual periods. When 20 years of age she was house-cleaning, and in lifting a heavy bedstead she felt something give way in her abdomen, accompanied by a good deal of pain and a feeling of sickness. Up till now her menses had been normal as regards time and quantity, and although she was not menstruating at the time of the strain, uterine hæmorrhage came on that night, and lasted some days. The hæmorrhage now returned every fortnight. She was treated medicinally by Dr. Johnstone Weir, now of Jarrow, and for a time with success; but later on the bleedings returned every fortnight. A year and a half ago she married, and this, instead of improving, apparently aggravated matters. One uterine hæmorrhage would now scarcely cease when another would begin. There was extreme anæmia, with loud cardiac murmur, particularly over the pulmonary artery. Per vaginam could be felt two large cystic masses behind, and slightly, too, on either side of the uterus, which were regarded as diseased ovaries. I treated her by complete rest in bed, and gave her from 20 to 30 minims of tinct. hydrastis canadensis thrice daily, and for a month the bleeding entirely ceased. She then menstruated, but normally. After that she did not see anything in the shape of discharge for other three weeks. The question of removal of the ovaries, which had been broached to her when she was so ill in the early part of the treatment, was not entertained by her, as her husband, a sailor, was from home. Feeling at the end of the two months very much better, having bled only twice, and apparently normally, during that period, and expecting almost daily the arrival of her husband, she left the Infirmary. Soon after this the bleeding recommenced, and it was in this condition she consulted Mr. Morison. A more unfavourable case constitutionally could scarcely be met. I congratulate Mr. Morison upon the success of the operation. The cystic condition of these ovaries is not only a justification for their removal, but it and the severe uterine hæmorrhage demanded such, if the life of the patient was to be saved. Happily this end has been accomplished.

Mr. Rutherford Morison: I do not think this is a case of Rokitansky's tumour. Here in the right ovary is a large cyst capable of containing about an ounce of fluid, and inside this cyst are studded numerous small gelatinous growths on its walls, such as one finds in ordinary ovarian cystomata. Rokitansky's tumour is described by Tait as very rare and as resembling a bunch of grapes, with an ovum in each pediculated cyst, and that does not agree with the specimen I hold in my hand. As regards the hæmorrhage

in cases of cystic disease of the ovaries, my experience is that one finds menorrhagia as often as amenorrhœa.

SARCOMA OF THE PONS.

Dr. Drummond: This specimen of tumour of the pons was removed from the body of a boy aged 14, a patient of Dr. Morison, who gave me permission to bring it before the Society. Seven and a half years before Dr. Morison excised the left lower jaw for a spindle-celled sarcoma, and the patient remained perfectly well until about six months before his death, which took place on the 20th of September, 1887. At first he complained of headache and vomiting, and double optic neuritis soon developed (at this stage I had an opportunity of examining the case). Then the head became turned to the right (tonic torticollis), and the gait was noticed to be staggering, and he showed a tendency to turn round towards the side to which the head was turned. The next prominent feature to develop was paralysis of the right side, the limbs after a while becoming rigid. A month before death he entirely lost his speech, no doubt from paralysis of the muscles of the vocal apparatus. The left arm and leg became rigid, without marked paralysis, about a fortnight later, and towards the end both sides of the face were paralysed, and swallowing grew extremely difficult.

The tumour is an infiltrating sarcoma, affecting chiefly the left side of the pons, and under the microscope is seen to be a combined spindle and round-celled sarcoma.

Dr. Gibson: Might I ask why Dr. Drummond considers this tumour of the pons to be secondary to the tumour of the jaw? Why might they not be contemporary growths?

Mr. Rutherford Morison: The tumour of the jaw was a central sarcoma, and was contained in the body of the jaw.

Dr. Oliver: Were the peduncles of the cerebellum at all involved?

Dr. Drummond: The left cerebellar peduncle was.

Dr. Hume: In regard to Dr. Gibson's query, I think in such a case the description of the cerebral growth as "secondary" is perfectly justifiable, since no symptoms of its existence were detected until years after the removal of the primary sarcoma of the jaw.

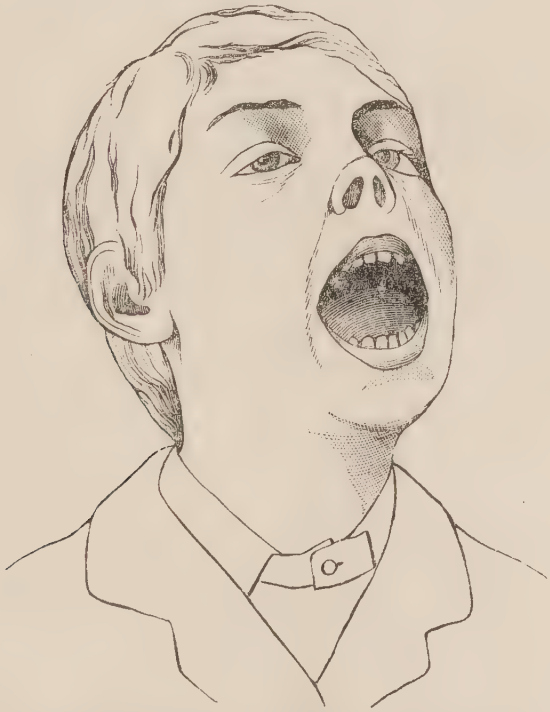
CLOSURE OF THE JAWS FROM ANKYLOSIS OF THE TEMPERO MAXILLARY JOINT. EXCISION OF THE CONDYLE. GOOD RESULT.

By FREDERICK PAGE, Honorary Surgeon to the Royal Infirmary, Newcastle-upon-Tyne; Examiner on Clinical Surgery, University of Edinburgh; Lecturer on Medical Jurisprudence in the University of Durham.

J. C., a well-grown, healthy-looking boy, aged 13 years, came under my care, February 24th, 1887, suffering considerable inconvenience from inability to open his mouth. Four years ago, he suffered from what was considered to be a second attack of measles, followed by long-continued purulent discharge from both ears, but more abundant, and longer continued, from the left. The power of opening the mouth had, during the last two years, been gradually curtailed, until, on admission into the Newcastle-upon-Tyne Royal Infirmary, he was only able to separate his jaws to a very slight extent. The front teeth in the upper jaw were pushed forward by the action of the tongue. He had no lateral movement of the jaw, and what solid food he took he was accustomed to cut into very small pieces, which he insinuated between the teeth, and swallowed without mastication. The left side of the face, beneath the zygoma, was fuller than the right. All discharge from the ears had ceased for some months. The woodcut below, by Messrs. Danielsson, from a photograph kindly taken by Mr. G. Berwick, gives an excellent idea of the boy's condition :—

A determined attempt, under chloroform, was made to force the jaws asunder with gags, but the result was not satisfactory

and it was followed by severe constitutional disturbance, and by much pain and swelling of the left side of the face, the right being unaffected. I came to the conclusion that there was disease of the left tempero maxillary articulation, likely, at no distant date, to cause complete bony ankylosis, and determined to form a false joint by excising a portion of the neck of the jaw. On March 26th, the boy being in his usual good health, an incision an inch and a quarter in length was made along the inferior margin of the zygoma down to the condyle, but it was found necessary to supplement this by another at right angles to it, and three-quarters of an inch long. By these incisions the neck of the bone was exposed, and, with some difficulty, divided—partly with Adam's saw, partly with bone pliers, and a piece removed. Still the mouth could not be freely opened. The condyle was firmly fixed to the skull. McEwen's chisel was carefully driven through the line of articulation, and the condyle dissected out. The mouth could then be freely opened, and there was a good space between the temporal bone and the jaw. The bleeding was slight. Some facial paralysis followed, but quite passed off in a few days. The wound healed readily, with the exception of a sinus, through which small particles of bone were, from time to time, discharged. The power to chew was at once established, and the lad masticated solid food the day after the operation. Three weeks later, he had the full use of his jaw, and could eat, without difficulty, a hospital chop, which Mr. Treves, who then saw the patient, considered a very fair test of his chewing capacity.



The removed condyle has a peculiar appearance. It is, as you see, much enlarged, quite free from cartilage, and its surface

extensively and deeply eroded. No one has recognised it as the condyle of the lower jaw.

The woodcut No. II. shows that the lad's condition to-day, seven months after operation, leaves nothing to be desired. He can open his mouth wide enough, and he has no inconvenience in eating.

In January, 1856, Professor Humphrey published, in the Association Journal, a case of ankylosis of the jaw treated most successfully by excision. That but few other cases have been recorded is due, partly, no doubt, to the rarity of disease of the tempero maxillary articulation, and partly to such cases being treated by some other method than excision. My chief object in reporting this case is to draw attention to the advantages of excision of the condyle, as compared with the establishment of a false joint, by division of the ramus, or of the neck of the lower jaw. Excision, no doubt, is a somewhat troublesome operation, but it gives rise to excellent results, and entails no subsequent painful movements of the jaw, such as must follow simple division, in order that a new joint may be maintained. Esmarch's plan of removing a wedge of bone, so as to form an artificial joint in front of the masseter muscle, when performed for closure of the jaw, due to interarticular disease, seems to me to be a more severe and less surgical procedure than excision of the condyle. Professor Ewing Mears, of Philadelphia, divides the ramus of the jaw, and removes the condyle with the coronoid process, and sigmoid notch by means of an incision inside the mouth. I should look upon his operation as very much more severe and difficult than excision of the condyle from the outside. I gathered, however, from Professor Mears, with whom I lately had an opportunity of talking on the subject, that he considered his method had great advantages. Whether, however, an external or an internal incision be adopted, I see no valid reason why the well-established practice of excising a diseased or ankylosed joint should be departed from in cases of closure of the jaws from interarticular disease; and, on the contrary, many reasons why it should be the rule of practice.

RECENT ADVANCES IN GYNÆCOLOGICAL MEDICINE.

By THOMAS OLIVER, M.D., M.R.C.P., Physician to the Infirmary, Newcastle-upon-Tyne.

Within the last few years an impetus has been given to the study of diseases of women by the marvellous results which have been obtained by ovariotomy and laparatomy, and by an increasing knowledge of certain pathological conditions which, until lately, had escaped observation, but which are now happily brought within our reach by means of the more refined methods of diagnosis we possess. Pyosalpiux, for instance—that is, inflammation of the Fallopian tubes—is now not only a morbid condition frequently detected during life, but is known to be all the while a source of discomfort and prolonged misery to the patient. And yet, while the valuable results obtained by operation fix themselves upon our attention, and we are startled by the amount of injury that may be inflicted upon the peritoneum, without serious effects following, the advance in our knowledge as physicians of the medical aspects of ovarian and uterine disease has been no less steady and well maintained.

As a hæmostatic and excitor of uterine muscular contraction, I don't think that anything has yet been found superior to ergot. We all know, those of us at least who have had experience in midwifery practice, of the benefits that may be got by the judicious employment of ergot in the second and third stages of labour. It was from a knowledge of its physiological action that the drug came to be employed in the treatment of uterine fibroids. In the hands of Hildebrandt, of Konigsberg, ergot, injected hypodermically, proved most successful in the treatment of seven cases. Owing to the contraction of uterine muscular fibre by means of ergot, the nutrition of the tumour was arrested, fatty degeneration is said to have occurred, and the tumour absorbed. I have given ergot a fair trial in the treatment of uterine fibroids, but I cannot say that I have obtained the brilliant results of Hildebrandt, although in the hands of others better results have been obtained by means of ergot than by any other line of treatment. Hildebrandt's method is rather trying for patients. Many are said to have suffered from abscesses, whilst in others the amount of uterine pain induced was so great as to oblige the physician to discontinue the injections. The solution he employs is composed of three parts of the aqueous extract of ergot, in seven and a half parts each of glycerine and water. He always selected the hypogastric region as the site for his puncture, and recommends that not less than three grains of the extract should be

injected on each occasion. Ergotism in not a few cases followed but the production of abscesses was prevented by carrying the needle deeply down into the subcutaneous tissues.

To the wonderful diminution which occurs in fibroids after removal of the ovaries, the attention of members of this Society has been drawn from time to time. I have seen a large uterine fibroid dwindle down from the size of a child's head to a turkey's egg within two or three years after removal of the ovaries; and in one of my own cases, where at the menstrual periods, the tumour, sharing in the local hyperæmia which is present at that time, so pressed upon the bladder that micturition became impossible. The tumour, since Dr. Hume removed the ovaries, has undergone the most marked and rapid diminution. A similar result, it will be remembered, occurred in the patient of Dr. Drummond, who was operated upon by Dr. Arnison, and who was shown to the Society three or four years ago. Where a fibroid has been of great size, and has involved largely the uterus and the hæmorrhage has been severe, or important organs have been unduly pressed upon, the operation of removal of the ovaries has been justifiable; particularly, too, in patients who are a few years off the climacteric period. It remains to be seen whether this line of treatment will in the future be so frequently adopted as it has been in the past.

A few months ago, we were somewhat roused by the sudden announcement in the journals of the cure of fibroids of the uterus by means of electricity. Though somewhat startling it was no new line of treatment that Apostoli of Paris was recommending. Years ago, Robert Barnes described the local effects of electricity —regarding it as a stimulator of uterine fibre. Labour, it was known, had been induced by it. Besides, in the hands of Cutter of Boston, the growth of uterine fibroid had been arrested in 32 out of 50 cases—four were actually cured; while in seven there was no arrest of growth whatever. Cutter passed the galvanic current into the tumour through punctures made on each side of the abdomen, by means of strong steel electrodes; and he is careful to remind us of the little amount of constitutional disturbance that followed the punctures, although four out of his 50 cases thus treated are said to have ended fatally. Perhaps it was knowledge of the fact of electricity having been tried and found in a sense awanting, or the belief in the medical mind that electricity, as a general therapeutic agent, has had more assigned to it by some, in the cure of disease, than it really deserves, or the difficulty which medical men have in properly applying it, both as regards qaulity and quantity—one or other of these has, no doubt, made most of us sceptical as to the good results likely to be got by its employment, and have made us chary in accepting off-hand the wonderful results said to have been obtained by Apostoli. When in Dublin this autumn, at the meeting of the British Medical

Association, I had an opportunity of discussing with Apostoli the electrical treatment of fibroids, and had the pleasure and privilege of seeing him apply it in the case of a uterine fibroid associated with hæmorrhage. Those of you who have read his paper know that Apostoli claims for his electrical treatment two things—(1) a hæmostatic; and (2) an analytic action. Where a uterus contains a fibroid which is causing severe losses of blood, or where the organ is hypertrophied, and its mucous membrane has become soft and fungous, Apostoli recommends the introduction of the positive pole of his apparatus into the interior of the organ; and, according to the necessities of the case, uses currents of high intensities, gradually increased—all measured, and varying from 50 to 150 milliampères. For the very large growths, which, though unattended by hæmorrhage, are yet pressing upon important organs, causing great discomfort, and even threatening life here, as very often the cervical canal is closed, and it is impossible to pass even a delicate sound into the uterus, the recommendation is to puncture, from the vagina, the tumour at its most dependent part, taking care to avoid blood vessels, and making the punctures shallow—not deeper than from one to two centimetres. The puncturing instrument, a special form of trochar, is applied to the negative pole of the battery; and in this, as in most of his operations of this kind, the electrical circuit is closed by the application of the other electrode, placed on a thick layer of wet clay, which lies upon the abdomen. There is thus set up, it is maintained, a state of temporary congestion, without any hæmostatic effect—"the interstitial circulation of the uterus, thus stimulated, is hurried on, and a regression of a non-hæmorrhagic fibroma is the consequence." At our next, or an early meeting, I hope to be able to demonstrate the application of this method, and to lay before the members any experience I may have had. The patient operated upon by Apostoli, at the Rotunda, was a healthy-looking woman, 35 or 36 years of age, and was the subject of a large bleeding, irregularly-shaped myoma, easily felt through the abdominal wall. The tumour, it was thought, had already undergone some diminution in size under the administration, hyperdermically, of ergot, by Dr. McCann. Apostoli, before applying his method, had the vagina thoroughly irrigated—absolute cleanness and antisepsis being most vital points to be attended to—then, carrying into the uterus the modified positive pole of the battery, and laying the wetted clay electrode upon the abdomen, an electrical current was passed slowly through Gaiffe's galvanometer into the uterus, and gradually increased. From first to last the circulation of the electrical current was unattended by pain or unpleasant feelings of any kind whatever.

In the Golden Seal of the United States' Pharmacopœia, Hydrastis

Canadensis, we have a drug which, whilst useful as a stomachic and intestinal tonic, is also most useful in checking uterine hæmorrhage. It was the knowledge which Professor Schatz, of Rostock, had of the efficacy of hydrastis canadensis in inducing strong peristaltic contractions of the intestine that led him to employ it as a uterine tonic. So successful has Schatz been in the treatment of diseases of the uterus and its appendages, which are attended by considerable losses of blood, that, since employing the drug in the treatment of these cases, there has not been in his district the necessity to have recourse to surgical proceeding so frequently as formerly. Hydrastis is recommended for all forms of chronic metritis, for inflammations invading the tissues around and in the wall of the uterus, for ovaritis, and for uterine fibromata; the growth of the latter, it is maintained, being not only arrested, but in many cases are found undergoing diminution. Hydrastis certainly does restrain the flow of blood in myo-fibromata, but it is in cases of menorrhagia, where the loss of blood depends upon a para, or perimetritis, that its efficacy, in my opinion, is most marked. It not only relieves ovarian pain, but it has checked uterine hæmorrhage in cases where there has been such evidence of inflammation outside and immediately around the uterus that intra-uterine medication, or curelling, could not have been attempted. The drug has, in my hands, had little or no effect upon uterine hæmorrhage dependent upon mucous polypi. I regard hydrastis canadensis as a most valuable addition to our already pretty large list of uterine remedies. It soothes ovarian pain, acute or chronic, checks the bleedings of the latter; it checks the bleeding of endometritis, and relieves that unpleasant pain which prevents a woman thus affected from either sitting or walking; it relieves, and in many of my cases has checked, the hæmorrhage in the lower forms of puerperal metritis and of chronic peritonitis, and in nearly every instance it has relieved the head-ache which is so frequently complained of by women who are the subjects of chronic inflammatory affections in and around the uterus and ovaries.

Of Viburnum Prunifolium I have had a limited experience. It was introduced to the profession as a remedy for the prevention of abortion, and, so far as its efficacy in this line of practice is concerned, I have had no experience of it whatever. It has maintained its reputation, however, and particularly in those cases where there has been partial separation of the placenta, and blood has accumulated between the decidua and the wall of the uterus, but not in such quantity as to kill the fœtus by asphyxia. Here, as the result of the presence of a layer of blood between the decidua and the uterus, contractions of that organ are set up, which complete the abortion. Now, it is in such cases that vibrunum prunifolium is said to answer well, by restraining the

hæmorrhage and reducing uterine contraction—although the uterine contraction, it should be remembered, is of itself sometimes nature's method of preventing the abortion, by checking the hæmorrhage. The drug is, therefore, a hæmostatic. I have found it a useful tonic, relieving frequently ovarian pain and headache. One of my patients, who had been the subject of pelvic peritonitis, and who for several years had hæmorrhage from the uterus every few days, but who now goes regularly the month without menstruating, has, since taking this drug, lost all her headache and backache, and is able to go for long walks without fatigue. The dose of the tincture varies from 10 to 30 minims.

Menyanthis Trifoliata, or the buck-bean, was introduced a few years ago as a remedy for amenorrhœa. I have given the drug an extensive trial, but have never had any satisfactory results from it.

From the employment of Pulsatilla Nigracans, in the treatment of amenorrhœa, I have not had any good results; but in the treatment of painful menstruation it is more satisfactory. Both spasmodic and ovarian dysmenorrhæa have been much relieved by it.

Salix nigra I am at present using as a sedative and reliever of ovarian pain at the period of menstruation, and, so far, with good results. I don't think, however, that it is in any way a better sedative than bromide of potassium.

Aletris Cordial has been very much vaunted of late as a uterine tonic and ovarian sedative. In my out-patient department in the Infirmary I have used it largely, and, whilst in many cases patients have improved generally when taking the drug, it is a much less efficacious drug than hydrastis canadensis.

For ordinary cases of leucorrhœa, entirely vaginal in origin, or depending upon endo-cervicitis, of not too long standing, or a large abraded, gaping, and soft "os," we have in Abeis Canadensis—the Canadian hemlock—one of the most satisfactory and soothing applications that I know. In nearly every instance where it has been employed, patients have experienced the greatest comfort and relief to pain; and have either lost entirely, or had very much diminished, the abundant discharge of "whites" from which they had been suffering. The liquid extract, as prepared by Geddes, is what I generally use; and where there is an acute or sub-acute inflammation of the vagina, involving slightly, too, the cervix, I know of no douche so efficacious as one of hot water, to which one to four teaspoonfuls of the above extract has been added, with or without a similar quantity of vinum opii.

For chronic endo-cervicitis, curetting is recommended. Its employment has been followed by such satisfactory results as to lead me to continue this line of treatment a little longer.

Dr. Gibson: I was in hopes that, in dealing with the modern advances of uterine therapeutics, Dr. Oliver might have had something to say on the subject of neurasthenia, and I am disappointed that he has not. It occurred to me that the great peculiarity of the paper is the entire negation, or rather affirmation, of treatment. Old methods are entirely abandoned, and new ones taken up in their turn, to be, I suppose, abandoned in their turn. Take, for instance, the metrotome, an instrument of most undoubted utility in many cases, but one never hears of its employment now-a-days. Again, what struck me was the want of reference to the pessary. We had here another useful adjunct to treatment, but one which, unfortunately, has been driven to death. There is no mention either of the treatment of diseases of the cervix by cauterisation. I can remember when nothing would serve in these cases but applying nitrate of silver to the cervix, and this treatment was continued from day to day, and from year to year, and at the end the patient suffered as much as before from ulceration of the cervix. Apostoli's treatment is by no means new, as, years ago, I tried the action of electricity upon fibroids, and with little success; but I did not use a current of the strength now used in Paris. In the treatment of fibroids, I also gave an extended trial to ergot, injected subcutaneously; but this treatment was always, to me, unsatisfactory. I injected into the abdominal walls, and I injected directly into the tumour itself, and found that it nearly always stayed the hæmorrhage, but never can I say that I found any diminution in the size of the tumour. In regard to leucorrhœa, to which Dr. Oliver refers to at the close of his paper, I believe that when this arises from a diseased condition of the cervix, you have an implication of the follicles, and you may go on injecting abies canadensis for an indefinite period without the least abatement of the disease.

Dr. Murphy: Last summer I had the pleasure of an interview with Apostoli, in his consulting rooms in Paris, and, from what I saw there, I was not too highly impressed either with the man or his method. The walls of his rooms were covered with casts of cases which he had treated, but in every case these were casts taken before the commencement of treatment. If he has any casts of cases taken after treatment, I did not see them, though I was most anxious to do so. I think that, on the whole, the most satisfactory treatment of uterine fibroids is to be found in the intra-muscular injection of ergot.

Dr. Hume: In fairness to Apostoli, I must say that I have recently been in communication with Dr. Keith, of Edinburgh, on the subject, and he tells me that he has used the method now some 500 times, and with increasing faith in its efficacy to do good.

NORTHUMBERLAND AND DURHAM
MEDICAL SOCIETY.

SESSION 1887-88.

NOVEMBER MEETING, 1887.

The Second Monthly Meeting of the session was held in the Library of the Royal Infirmary, Newcastle-on-Tyne, on the evening of Thursday, November 10th—Dr. Hume (President) in the chair.

NEW MEMBERS PROPOSED.

The following gentlemen were proposed for election :—

T. B. Martin, L.R.C.S., Sunderland.
T. A. Collinson, M.R.C.S., Durham Infirmary.
George Ralph Raine, M.D. Lond., Darlington.
J. Ratcliffe Gaylard, L.R.C.P. & S., Shildon.
Robert Collie, M.D. Aber., Sunderland.
John Cromie, L.R.C.P. & S., Blyth.
A. Arnold, M.R.C.S., Bishop Auckland.

ADENOID VEGETATIONS OF THE VAULT OF THE PHARNYX.

Dr. Limont : This girl, M.A., aged 12 years, was admitted under my care by Dr. Cave, in October, on account of long-standing throat trouble and deafness.

The account given by the mother is, that the patient ever since she was a very small child has had trouble with her throat, especially in winter; that she has been deaf from a very early age, and has had from time to time very great pain in her ears; that she had an attack of measles when under two years of age; that she cannot breathe with the mouth shut; that her breathing is very noisy during sleep. As the mother says, "She struggles with her breathing so that she wakens."

On admission the patient's state was described as follows :—The girl's mouth is always kept open; her expression is stupid; there is generally a discharge trickling from the nostrils, and this cannot be got rid of by blowing, on account of blocking of the nostrils; the mucous membrane over the turbinated bones is seen to be much thickened—so as to resemble nasal polypi; there is considerable deafness, especially on the left side; speech is affected; there is difficulty in pronouncing m, n, and g; thus common is

pronounced "cobbed," nose, "dose," and song either "sog" or "sod."

At the time of admission the girl was suffering from an attack of acute tonsillitis. After that had passed off it was found that the tonsils remained enlarged, the soft palate and uvula thick and œdematous-looking. The posterior wall of the pharnyx was covered with a stringy mucopurulent fluid. When this was removed there were seen several projections about the size of a pea, slightly paler than the surrounding mucous membrane, and firm to the touch. On passing the finger above the soft palate a number of projections (somewhat resembling in shape polypi) were felt, some springing from the roof, some from the sides, and some from the posterior wall of the pharnyx; they almost filled the space, and bled on being roughly manipulated.

Since that time the condition of the mucous membrane has improved greatly, so that the girl can now breathe through the nose when asked to do so; the swelling of the mucous membrane over the turbinated bones has also disappeared. As the patient could not breathe through the nose I did not attempt an examination of the posterior nares by the mirror, but contented myself with the digital examination.

Treatment of these cases by astringents or caustics seems to be entirely discarded in favour of operative interference, and I shall, after showing the case to-night, hand it over to Mr. Page, who will, I trust, be able to present the patient much improved at the next meeting of this society. Meanwhile I intend to-night to read some notes on what is known of adenoid growths of the pharnyx.

A CASE OF BLOCKING OF THE CENTRAL ARTERY OF THE RETINA.

Mr. Williamson: The patient I have to show you is a miner, aged forty-three. On October 22nd he was working in a low seam in a pit, when a fall of stone from the roof occurred. He darted back just in time to save himself. Striking the back of his head, however, against the roof, his leather cap saved the scalp and there was no wound. Recovering himself immediately, he found that the sight of his right eye was gone, whereas up to the time of the accident he could see equally well with both eyes. Three or four hours before he had subjected his sight to a severe test in examining the gauze of some safety lamps.

I saw him nine days after the accident, when his sight was so much affected that he could not distinguish my hand. He said that his general health was good, and had been so for some years. There was no history of rheumatism nor syphilis, and he had no cardiac nor renal disease. On ophthalmoscopic examination the fundus presented exactly the appearances shown in the accompanying drawing from Liebreich—the minute arteries, the dark and distended veins, and the characteristic red point in the middle

of the yellow spot, accentuated by the white and misty retina surrounding it. There were several large vessels near the yellow spot. The appearances were precisely those recognised as characteristic of embolism of the arteria centralis retinal; and from these, and the patient's history, there can be no doubt that that artery became in some way suddenly blocked at the time of the accident. The injury he received was over the right occiput, and far away from the eye, which was not itself damaged by the blow. I can only explain the occurrence by supposing that there may have been disease of the inner coat of the cerebral artery (from which the ophthalmic takes its rise), and that the blow detached a small fragment which immediately found its way into the retinal artery. Thrombosis in that vessel would not have produced such a sudden and complete stop in the circulation through it. The appearances now, about twenty days after the accident, are gradually becoming less characteristic. The red point at the yellow spot still remains, but the white infiltration of the retina is disappearing, the disc is becoming white and atrophied. I have brought this case forward, because so far as I can find out there is not another instance recorded in which immediate occlusion of the central artery of the retina has followed an injury.

CASE OF EXTREME KNOCK-KNEE.

Mr. Morgan: I have pleasure, sir, in bringing before the members to-night this man, upon whom I performed MacEwen's operation for the worst case of knock-knee I have ever seen, and I pass around photographs to enable you to judge of the improvement effected. The history of the case is as follows:—

R. Y., æt. 34, was admitted into Sunderland Infirmary, May 13, 1887. He had always been knock-kneed, but latterly he had become so much worse that he was unable to follow his occupation as a blacksmith.

On admission the deformity was very marked in both limbs, but especially in right; the knee joints being loose and flail-like, the internal condyle projecting disproportionately, and the tibia dislocated outwards. On attempting to walk, the patellæ became displaced, and lay on the outer sides of the joints, and the tendons of the biceps flexor cruris stood out as tense cords. The ankles, also, were becoming deformed from the constant effort necessary to maintain the upright position.

May 18. MacEwen's operation was done, and the tendons of the biceps subcutaneously divided on both sides, and the limbs put up on the usual double splint. There was no pain or fever, and the dressings were not disturbed for three-and-a-half weeks, when the splints were removed and the limbs put up separately in plaster of Paris. The left limb was perfectly straight, as is shown in the photograph, and as appears in the man before you, and the

right is for all practical purposes straight; but it will be observed that there is a little curve in the union—probably from slipping of the splint in first dressing. The result, however, is excellent. The patellæ have returned to their places, and the man has now good-looking as well as serviceable legs.

DUPUYTRENS CONTRACTION OF FINGERS.

Mr. Morgan: I also show you this patient, who has suffered from Dupuytrens contraction of the fingers of both hands, and I pass round sketches showing the condition before operation. The after result is before you. He was a chain-maker, and no other member of his family had suffered. There was a rheumatic history, and the deformity commenced fifteen months ago. The drawing, made by one of the deaconesses nursing at the Sunderland Infirmary, faithfully represents the contraction—the photograph the cure. On division of the expansions of the palmar aponeurosis on each side of the affected fingers, this contraction did not, as usual, yield; and it was not until the flexor-tendons had been divided as well that the fingers could be straightened. This may have been due to a band of fascia lying in front and close to the tendon, and not to the tendon itself; but it was found impossible to extend until both had been severed. The after treatment consisted of extension being maintained on a straight splint until July 6th, when he was dismissed cured as you now see him.

INTUSSUSCEPTION OF THE BOWEL.

Dr. Jas. Drummond: At a time when so much is being written on the subject of abdominal surgery, I venture to bring this case before you as being of some interest, though, unfortunately in this instance, surgical interference was out of the question, owing to the rapid course and fatal termination of the illness. The boy, from whom this specimen was obtained, was eight years of age, and on the 8th of October he had, during the day, been playing about. In the evening, when he came home, he complained of some pain, and shortly after vomited. The vomiting continued through the night, and the pain increased in violence, though the mother applied the usual remedies. Medical aid was not sought till the morning, but from the very intelligent account of the symptoms given by the mother, I learned that the vomit was not stercoraceous, and that there had been severe diarrhœa. There was no cause that could be assigned for the sudden illness, but all the symptoms were those of acute irritant poisoning. He died on the morning of the 9th in a convulsion fit a few minutes before I saw him. This is an unusual ending of a case of obstruction, the fatal termination being, as a rule, not so soon to follow the first onset of the symptoms. The seat of the intussusception was found about the middle of the small intestine, there being congestion of the

bowel for only about six inches below the obstruction; but the obstruction itself was sufficient to account for the convulsions which caused death. No blood had been passed per rectum. The points of interest in the case were that there were no symptoms pointing directly to obstruction of the bowel, and on palpation there was no sausage-like tumour to be felt. Coates, in his Handbook of Pathology, says that intussusception sometimes takes place after death, owing to irregular contraction of the bowel; but in this case the congestion of the bowel around the obstruction was sufficient to show that it had existed for some time before death.

Dr. PHILIPSON: In children there is always very great difficulty in the diagnosis of obstruction of the bowels. There is no tumour to be felt, and no bloody mucous is passed as a rule by the fundus. Our thanks are due to Dr. Drummond for bringing this very interesting specimen before the meeting.

Dr. HUME: Was there no undigested food in the stomach or in the bowel?

Dr. DRUMMOND: The stomach had been emptied by the vomiting and the bowel by the diarrhœa.

Dr. HUME: The pith of the case seems to me to lie in the time when the intussusception took place, whether some time before death or just *ante-mortem*.

Dr. D. DRUMMOND: I think it has been pointed out, and it is my experience in the *post-mortem* room, that in intussusception taking place just *ante-mortem* there are generally several invaginations formed.

Dr. JAS. DRUMMOND: There was only one intussusception present, and there was no other disease to be found in any other part of the body to account for the symptoms. The thickening, congestion, and œdema of the bowel could not have taken place in less than twelve hours.

EXTRA UTERINE PREGNANCY.

Mr. MORGAN: To judge by the history of the case this fœtus must have been at least 12 months formed at the time when it was removed, by abdominal section, on 13th of May this year. Mrs. D., aged 32, was admitted into Sunderland Infirmary April 21, 1887. Previous history: Married 14 years; 2 children; 4 miscarriages; catamenia regular up to 18 months ago—then saw nothing for four months, and for 13 months ceased menstruating until six weeks prior to admission. Since then she has had several smart attacks of hæmorrhage, accompanied by abdominal pain. She had the usual symptoms, and believed herself to be pregnant until lately. Present condition when admitted: She looks distressed, and says that the pain in belly is never altogether absent,

and at times is very severe. The abdomen is occupied by a rounded tumour, extending more to left side, dull on percussion, firm and even hard to the feel, but with fluctuation obscurely perceptible. It is very tender to the touch. Vaginal examinations shows the os uteri high up, and difficult to enter, and behind the cervix a mass occupying the posterior fornix, through which obscure fluctuation, continuous with that in abdomen, can be detected. She was kept under observation for three weeks; and during that time had several sharp attacks of illness, with fever, pain, and some bleeding. It was thought to be extra uterine pregnancy for the following reasons:—(1) The character of the tumour gave the feel of solid portions as well as the fluctuation of fluid; and (2) the history of the case, especially the repeated gushes of blood, and the abdominal pains. On May 13, under chloroform, the abdomen was opened, and a cyst, like an ovarian cyst, presented. This was tapped, and a quantity of brownish fluid withdrawn, and then freely opened, and this fœtus removed. It is, as you see, at full term, and beginning to assume the appearance of a Lithopœdion. The placenta, greyish brown, but not fœtid, was peeled off so far as could be done without loss of blood; and much of it removed. The edges of the cyst were then stitched to the edges of the abdominal wound, and the cavity washed out with a warm solution of carbolic acid (1·80), and an india rubber drainage tube passed to the bottom of the cyst.

The peritoneal cavity was also washed out, and a glass drainage tube inserted. The upper part of the wound was then brought together, as after an ovariotomy. The operation lasted one hour and fifteen minutes. Very little bleeding. She rallied well, had some pain in the evening, and a little vomiting. At 6 p.m. sac washed out. At 9 p.m. sac washed out, and peritoneal drainage removed. Temperature 101. Next day the sac was washed with thymol. Thirst great. Temperature 99; pulse 80. Fed by enemata. During the first week the sac was kept clean by means of irrigation with weak carbolic lotion, which suited better than the thymol. There was copious purulent discharge. On the 20th a large slough was removed. And now for four months this patient steadily progressed towards recovery, for more than three giving us anxiety, as will be seen by this temperature chart, by the hectic which wasted her the evening temperature constantly marking 103 and falling in the morning to normal, but the sac continuing to close up, and her general health being maintained. On Sept. 29th she was discharged; and a fortnight afterwards reported herself as quite well and the wound quite healed. Her menstrual periods have not returned.

This is the third abdominal pregnancy which has occurred in my practice.

The first was in 1867. She was a multipara of 46, had passed

over one period, and had the usual signs of pregnancy ; was seized with violent abdominal pain after sea bath. A distinct tumour could be felt occupying left iliac region. Pain recurred at intervals, and was always referred to region of liver ; and she became jaundiced, and urine was loaded with bile. There occurred a free gush of bleeding, with membranous cast of uterus, and during it she fell back and died.

Autopsy showed recent peritonitis ; cavity full of blood, in which was a fœtus of ten weeks. The cyst which had contained it was an expansion from left ovary, and the placenta was still lying in sac.

The second was last year. Was an unmarried woman of 23 ; admitted into Sunderland Infirmary July 26, 1886. She had had four children ; had been eleven weeks without menstruating ; then a sharp flooding, with pain.

Vag. Exam.—Cervix hypertrophied ; os patulous ; sound enters an inch too far. An obscurely fluctuating tumour can be felt in posterior fornix, distinct from uterus.

Abdom. Exam.—A tumour the size of cricket ball can be felt in left iliac region ; fluctuation between this and vaginal tumour.

I looked upon this as a case of cyst, which had opened up the ligament.

Six days after admission.—Sudden pain, rigors, collapse, and death.

Autopsy.—Peritonitis ; left Fallopian tube the seat of pregnancy.

Mr. Rutherford Morison : I had the privilege of being present at the operation by Mr. Morgan, and have to congratulate him upon its successful issue. About a year ago I brought forward a fœtus similar to that shown by Mr. Morgan, but unfortunately I was also able to show at the same time the uterus and the sac which contained it. The patient in my case was very thin, and the extra uterine nature of the pregnancy was easily made out. In her case several years had elapsed since a former pregnancy. A week before the operation I heard the fœtal heart, and the day after she had very urgent symptoms. In operating I had to cut through the placenta, and there was a very alarming loss of blood, and, though she recovered from the operation, she died the same night from the shock and hæmorrhage. Whether in these cases should we operate early or late ? In my case and in that of Mr. Morgan the inference would seem to be that we should operate late. In Mr. Morgan's case he was able to strip off the placenta, and if I had been able to postpone operation in my case for a month or two I should perhaps have had better fortune.

Dr. Murphy : Mr. Morgan is to be congratulated on his successful operation on this very interesting case. It is, if I mistake not,

not only the first successful operation for extra-uterine gestation that has been recorded at this Society, but is the only one in this district. The whole question of extra-uterine gestation, as regards its ætiology, varieties, diagnosis, and treatment, is one of great interest at the present time, and it is a question which is only now receiving the attention it deserves. Last night there was a discussion on it at the Obstetrical Society of Edinburgh, and the 23rd of November has been set apart for a special discussion on the subject by the Obstetrical Society of London; and both these discussions will, I trust, bring out in a concise form our present knowledge of it. If we exclude exceptional cases, such as Koeberle's case, where it occurred from a patent cervix communicating with the abdomen, after an amputation of the fundus uteri; and Lechayse's case, where a fistula was left after a Cæsarian section, I am inclined to think the majority of cases are caused by a condition of a tube which is sufficiently open to permit the ingress of spermatozoa, but not sufficiently large to allow of the egress of the ovum, as I reject the theory of two ova jostling each other in the tube, and thus blocking it; and I am sceptical about those cases where either an extra-uterine (Oldham) or intra-uterine (Tyler Smith) transmigration is supposed to have occurred, from the fœtus having been found in the tube opposite to the ovary in which the corpus luteum has been developed; and I am inclined to agree with Lawson Tait, that in their original formation all extra-uterine pregnancies are tubal.

The diagnosis of these cases, as a rule, is very difficult; but their history, when reliable, is of considerable use, the cessation of menstruation for some time, then the uterine hæmorrhages, and the frequently recurring attacks of pain, with possibly expulsion of portions of decidua from the uterus. In Mr. Morgan's case a limb could be felt through the abdominal wall, which rendered the diagnosis comparatively easy; but in the other case which he had under his care a few months earlier, the tumour had more the character of a myoma, and in a very interesting case that I have since seen with Dr. Lambert we could diagnose a cyst in the broad-ligament, but beyond that we could not go. I do not wish to take up the time of the Society in discussing the various methods of treatment that have been adopted, such as Faradization, galvano-puncture, injection of morphia, tapping the cyst, &c., &c., but will confine my remarks to the treatment by abdominal section, which appears a better term than gastrotomy, which is now more frequently used for the operation of cutting into the stomach for the removal of a foreign body. Abdominal section, in the treatment of extra-uterine gestation, may be conveniently divided into three kinds:—

I.—What Harris calls "The early hæmostatic laparotomy for Fallopian pregnancy," which appears to have been devised and first

successfully performed by Lawson Tait, who has had considerable experience of it, and it has also been successfully performed by several other surgeons, generally after rupture of the sac.

II.—Secondary abdominal section, which is performed some months after the death of the fœtus, as in Mr. Morgan's case, and which appears to have been deliberately performed by Dr. Paul Calvo in 1594 upon a woman, æt. 26, who survived the operation eleven days; and which has been performed a great many times, and (according to Harris, of Philadelphia) with a mortality of less than 30 per cent.

III. —Primary abdominal section, which is performed during the life of the fœtus, and appears to have been first done by Brüchert, of Berlin, the child having been saved, but the mother dying within 40 hours ; and in connection with this the members may remember a correspondence in the *British Medical Journal* last Spring between Harris and Lawson Tait, the latter stating that he had operated on seven cases with but one death, but refusing to give particulars ; whereas, after a most diligent search, Harris could only find a record of but one case of his, and in that the woman died ; and, after several years spent in investigating the subject, he could only find records amongst all the countries in the world of twenty-seven primary abdominal sections, with twenty-four deaths, to which, if we add three cases that I know of that are not given in his table, we have a mortality of 90 per cent. The three successful cases were those of Jessop * (of Leeds), Martin † (of Berlin), and Lazarewicz ‡ (of Kharkof); and the great cause of this enormous mortality is the fact of the placenta being attached to a non-contractile base. It has been found attached to the uterus, bladder, intestines, kidneys, liver, spleen, and almost to every organ of the abdomen, and in all the cases where it has been removed death has ensued.

Mr. Page : Did I understand Mr. Morgan to say that he removed the whole of the placenta at the time of the operation ?

Mr. Morgan : I removed as much as I could by pulling it off without disturbing the subjacent tissues.

Mr. Page : I remember a case of this kind occurring in the practice of Mr. Jessop, of Leeds. In that case, which was a successful one, Mr. Jessop found that the placenta was adherent to the outer wall of the uterus, and he did not remove it at all. This case of Mr. Morgan's is a most important one, for it is the only one with which I am acquainted, and which the mother recovered after the placenta had been interfered with. Dr. Heath had a case in which, in operating, he had to interfere with the

* Trans. Obstet. Soc. London, 1876.
† Berliner Klinische Wochen, Dec. 26th, 1887.
‡ Vrach. St. Petersburg, 1886.

placenta, and although in that case the woman for some little time did apparently well, she ultimately died.

Dr. HUME: Last year a case of this kind was sent into me for operation by Drs. Farquharson and Foggin. In that case when I had divided the abdominal walls the condition of matters presented was something like this:—The sac presented, but was crossed at short intervals on its whole surface by coils of intestine, which crossed it like the bars of a gate. Between two of these traversing folds a trocar was plunged into the sac and was followed by an immediate gush of blood from the delivery tube into the pan. There was then nothing for it but to tear through the placenta, and this was done, and a dead (apparently full term) fœtus extracted. All efforts to stay the hæmorrhage were but very partially successful, and the patient died the same night. *Post mortem* was found a most remarkable condition of things. The placenta was found not as a single mass, but disconnected in small cotyledons all over the intestines, over the sac, and over the uterus; and there was no room between any of those offsets sufficient to remove the child without breaking into the placenta. In this case there was no question as to when to operate. The woman was in extremis, and in imminent danger from septic peritonitis, and we were compelled to operate at once.

Mr. MORGAN: I was very fortunate in being able to remove the placenta, but I was quite prepared to leave it had there been any difficulty encountered in taking it away. In regard to the best time of operation, I think that when the condition is once diagnosed there can be no question that the sooner one operates the better. The risks the woman runs from bursting of the sac and other dangers are so terrible, that one is bound to give her whatever chance there is.

CEREBRAL ABSCESS.

Mr. W. G. BLACK: This brain, sir, was removed *post-mortem* from the body of a child three years of age, who was admitted into the Children's Hospital, under my care, on October 7, 1887.

The history of the case is briefly this: Three months previously, when sitting on a window ledge, the child was struck on the top of the head by a wooden roller blind falling upon her, The nail projection at the end stuck in the head immediately above the right parietal eminence. The mother drew it out from the wound, and, as no symptoms followed, thought no more about it. The wound healed kindly under water dressing. Three weeks before admission (nine after the accident), the child, after being hangy and listless for a few days, had a convulsion which was limited to the left arm and leg; gradually the child lost its eyesight, becoming perfectly blind, and also paralysed in the left arm and leg.

At the time of its admission the child was unconscious, blind, and had left hemiplegia. About an inch external to the interparietal suture on the right side was a scar half-an-inch in diameter, and in the centre of this the point of the finger could be introduced into a circular depression, pressure upon which produced *right-sided* convulsions and rigidity. Punctured fracture and abscess, probably of the brain itself, was diagnosed, and it was decided to trephine.

This was done on October 9th, and, as the bones were unossified, an opening was easily made with a strong pair of scissors. The membranes bulged into the opening thus made, and were divided on a director; brain substance then presented, and, on introducing a hypodermic needle, pus welled up by its side. A pair of ordinary forceps were introduced into the opening made by the needle, and the wound enlarged by separating the blades; pus then flowed freely, rather more than three ounces being collected, and a considerable quantity being lost. After the pus a large quantity of cerebro-spinal fluid flowed from the opening. A drainage tube was inserted, and the wound closed.

The child died ten hours afterwards, having been almost continuously convulsed, and having received apparently no benefit from the operation.

The operation was done with strict Listerian precautions.

At the *post-mortem* the membranes were found thickened and adherent, there was no pus on the surface of the hemisphere; but at the base, occupying the foramen magnum, about a dram of very thick pus was found. The membranes covering the anterior surface of the medulla were infiltrated with pus. On section of the brain this large abscess cavity was found occupying nearly the whole of the frontal convolutions on the right side.

A CASE OF PHOSPHOROUS POISONING.

Dr. Drummond: I show here the liver of a woman, aged 41, a widow, with a strongly alcoholic history, who was admitted into the Royal Infirmary on August 12th, 1887, two hours after she had attempted suicide by swallowing a solution of match heads made from the contents of seven boxes. On admission she was vomiting, which was partially the result of a mustard emetic administered by the police. Her breath smelt of alcohol, for she was under the influence of drink when she took the poison. For two days she appeared to have suffered but little damage, but on the 14th August she complained of pain in the stomach, and the vomiting returned and continued for four or five days. On the 15th the conjunctivæ were noticed to be tinged yellow, and from this time forward the jaundice increased day by day, so that by the 19th—on which day the vomiting ceased—the skin was deeply stained. The bowels were constipated, and the stools distinctly

pale. The urine now contained a large amount of bile pigment, and a faint trace of albumen. On the 25th the liver was found to be enlarged, and was smooth and tender on palpitation. A gradually increasing torpor set in, and the pulse became rapid and the tongue dry. The pupils were moderately dilated and active. A good deal of pain was complained of at the lower part of the abdomen. The bowels remained very costive. The first sound of the heart became high pitched, and was short and rapping in character. The albumen remained in the urine, which was twice examined by Dr. Walker for leucin and tyrosin, once about the middle of the illness and once a few days before death, but with a negative result on both occasions. On the 29th August it was observed that the liver dulness had diminished; and this diminution continued to the end, whilst the jaundice grew more and more intense. The backs of the hands became œdematous, and ten days later the legs also began to swell. On the 9th September three patches of ecchymosis appeared on the legs, and it was observed that rubbing the skin of the face with a towel, even with moderate pressure, brought out small subcutaneus hœmorrhages (puncta). The stupor deepened, and occasionally the patient was delirious, though the delirium was never noisy. The pulse continued rapid until the end, varying from 100 to 115 in the minute, but the temperature maintained an almost even line between 98·6° and 99°. She died on the 20th of September, thirty-eight days after taking the poison. The liver is somewhat reduced, and is a deep yellow colour. The microscope shows a decided increase in the connective tissue.

CARCINOMA OF THE STOMACH.

Dr. Drummond: I next exhibit two specimens of malignant disease of the stomach. The first was removed from the body of a man aged fifty-one, occupied at the Tharsis Copper Works. His illness began about January of the present year, and at first he complained of "water brash" and other dyspeptic symptoms, including gastric pain after meals. He was able, however, to continue his employment until April, though he was conscious of a steady loss of flesh. He now suffered from vomiting, which was almost constant and pulled him down rapidly. He was admitted into the Infirmary on August 27th, 1887, in a very exhausted state, and exceedingly emaciated. He had lost upwards of 5 stones since the beginning of the illness. He was vomiting frequently, and complained of severe pain in the epigastric region, which was aggravated by food. On physical examination a large, firm, and nodular tumour, which appeared to be about the size of a small cocoa nut, occupied the epigastric and upper part of the umbilical regions. At first it seemed to be fixed, and did not move with respiratory movements; but in a few days, after the abdominal

approach the globular form and show fatty degeneration. Here and there in the section are large fat cells; distended sebaceous follicles and hairs. There was also among the epithelium some of the bodies described as found in the contents of the cyst.

PROFESSOR BEDSON'S CHEMICAL REPORT.

The contents of the cyst received from Dr. Page consisted of a light yellow semi-solid mass. The solid matter contained fatty substances, such as the ordinary fats, tri-stearmiata, cholesterine and licithine, a small amount of extractives, and a large proportion of insoluble albuminous matter. The inorganic constituents were sodium chloride, carbonates and phosphates of calcium, and magnesium.

The following numbers give the composition by weight of the contents of the cyst:—

Total solids	19·17	Fatty Matter	3 74
		Extractives.....	0·87
		Albuminous Matter ...	14·12
		Inorganic Salts	0·44
Water	81·83		
	100·00		

No. II.—The other specimen is an ordinary multilocular cyst of the left ovary from a patient, aged 52 years. In showing these examples of ovarian disease I desire to express my satisfaction with the plan of washing out the abdominal cavity freely with hot water after the removal of the tumour. In both these cases this was done, and a considerable portion of water was in each instance left in the abdomen. As it did not subsequentiy escape through the drainage tube, which was on both occasions introduced, it must have become absorbed, for it certainly disappeared. I am inclined to the opinion that leaving some water in the belly has advantages. Blood mingling with hot water does not so readily form a clot. It diffuses itself in a liquid form, and, mixing with the water, a fluid is formed which can much more readily be disposed of by absorption than a clot of blood can. That, I think, seems only reasonable, and I believe it to be true.

MALIGNANT TUMOUR OF CHEST.

Dr. OLIVER: This interesting specimen was removed from the body of a young seaman, aged 26, who was admitted into the Infirmary a few days ago, suffering from urgent dyspnœa. He gave us a good family history, also one of good health as regards himself, until about three months ago, when he was in Spain. There he was suddenly seized with difficulty of breathing and cough, accompanied by expectoration freely tinged with blood,

This illness was said to have been bronchitis. Coming home to South Shields he was seen by Dr. James Drummond, who sent him here. On admission the man was rather cyanosed, and his breathing was so difficult and noisy that it was impossible to make any lengthened examination. The lower part of the front of the neck, including the thyroid, was involved in a large growth. There was dulness in upper part of chest under and on either side of sternum. Here the cardiac sounds were extremely distant but healthy, while over the apices of the lungs the respiratory murmur was absent. Slight tubularity of the breath sounds was noticed over the left apex. There was dulness over each base posteriorly. A few hours after this he died. Fluid was found in large quantity in each pleura, and this large solid growth in the mediastinum passing up to but not involving the thyroid gland, passing downwards in the chest, involving the pericardium, and encircling the aorta and pulmonary artery. On microscopical section it is seen to be a round-celled sarcoma, and the interest of the case lies in the absence of malignant disease in the family, the young age of the patient, his good health until three months ago, and then the occurrence of hæmorhage, a symptom suggesting aneurism rather than malignant tumour.

APOSTOLI'S APPARATUS.

Dr. Oliver: In the short paper which I read at the last meeting of the society I said that I would take an early opportunity of exhibiting the electrical apparatus used by Dr. Apostoli, of Paris, in the treatment of uterine fibroids The necessary apparatus consists of an electrical battery, which should contain not less than 40 cells, a galvanometer (Gaiffe's), modified uterine sounds, unipolar and bipolar, tipped with platinum, connecting wires, a zinc plate, and a layer of potter's clay. When the case is one of bleeding myoma this unipolar sound, which is not unlike an ordinary flexible catheter, but tipped with platinum at the end, is carried right into the uterus, and by its free end is connected through the galvanometer with the positive wire of the battery. It becomes thus the positive pole. Upon the patient's abdomen is placed this layer of wetted clay, and on the clay this zinc plate, which is attached by a connecting wire to the negative part of the battery. The circuit is thus completed. The positive pole inside the uterus and the negative on the abdomen of the patient, the electrical current now introduced passes through and is measured by this Gaiffe's galvanometer. A hæmostatic effect is produced upon the bleeding surface through the positive pole in this position. Hæmorrhage is said to be arrested, and after several applications the tumour generally exhibits signs of shrinking. But there are cases of uterine myomata where there is no bleeding, where from the extreme size of the tumour important organs are being pressed

upon, and important functions are disturbed; and for these a slightly different line of treatment is necessary. In such cases Apostoli recommends the puncture of the tumour by means of this large-shielded trochar. These are the cases in which the uterine canal is so pressed upon and distorted that even the ordinary uterine sound cannot be carried into the interior of the uterus. In such this trochar is made to penetrate the tumour to the extent of two centimètres, the point entering the tumour at its most dependent part behind the cervix, through the vaginal wall. This trochar he makes the negative pole of the apparatus, and he completes the circuit by attaching the positive wire to the zinc plate which lies upon the layer of clay placed upon the patient's abdomen. An analytical effect is produced within the tumour, through the electrical current being carried along by the negative pole in the tumour; some change, at any rate, is induced in the intercellular fluids of the tumour, that in time dissolution of its tissues occurs, and a gradual disappearance of the fibroid is the consequence. Lately, I have had an unmarried lady, aged 35, sent to me from the country, suffering from frequently repeated and severe hæmorrhages, due to the presence of a very large uterine myoma. It measures nine inches from the pubis upwards, and is about the same transversely. The tumour is hard, is irregular in outline, pretty firmly fixed, and is just one of those cases where removal of the ovaries would be a matter of great difficulty. Hysterectomy is out of the question. I brought this lady into Newcastle, and already she has had a few applications of electricity on the lines laid down by Apostoli. The positive pole I carried into the interior of the uterus, and at the first sitting passed into the tumour an electrical current measuring 85 milliampères. No pain was experienced all through the operation, but a sense of great heat, which was confined to the tumour. This feeling of heat lasted for several hours, but there was no rise of temperature or of pulse. On the following day the urine, previously healthy, contained a fair quantity of albumen. Since then stronger currents of electricity have been carried into the womb—140 to 210 milliampères. Albumen is generally found in the urine on the following day, but its appearance is transitory. When I have carried the currents into the uterus by the bipolar method, and thus done away with the plate on the abdomen, pain and not heat has been experienced; and on removal of the pole from the uterus the tumour, immediately after the operation, has been found extremely contracted and hard to the touch, the shape entirely altered—the shrunken and distorted appearance and the increased hardness lasting well on into the second day after the operation. Twice a small grey slough has come away from the uterus. I hope to be able to report at length to the society upon the result of treatment in this case.

REPORT OF A CASE OF IDIOPATHIC TETANUS, SUGGESTING QUESTIONS AS TO THE CAUSE AND NATURE OF THE DISEASE.

By FREDERICK PAGE, Honorary Surgeon to the Royal Infirmary, Newcastle-on-Tyne; Examiner on Clinical Surgery, University of Edinburgh; Lecturer on Medical Jurisprudence, University of Durham.

Idiopathic tetanus is rare in the human subject, so unusual that some authorities doubt its occurence. I think the case I am about to relate an undoubted example of tetanus arising without any wound. The symptoms followed, and were apparently produced by exposure to wet and cold, the usual alleged cause of idiopathic tetanus. I am induced to bring the case under the notice of the Society, partly on account of its intrinsic interest, and partly with the view of raising a discussion on the nature of the disease. The present seems to me to be a particularly appropriate time for us to engage in such a discussion. It will be known to the members of the Northumberland and Durham Medical Society that it is the intention of the College of Medicine to establish and maintain in the new college a chair of comparative pathology. The president, Dr. Heath, has already publicly alluded to the matter, and ample provision has been made for practically carrying out the study of comparative pathology in the new building, the foundation stone of which was laid by his Grace the Duke of Northumberland a few days ago. In taking this course the College of Medicine is following in the footsteps of London and Edinburgh, in both which cities facilities exist for the study of the diseases of animals, and the influence those diseases have upon the human subject. I can hardly imagine a more interesting study, or one more likely to yield important results. Preventive medicine is undoubtedly to-day the most important branch of medical science; and in order to check, to prevent the spread of disease among men, women, and children, it is essential we should thoroughly understand the natural history of disease, its source, nature, and mode of propagation. Certain diseases, it is already known, are conveyed to man from animals directly by contact—malignant pustule, hydrophobia, farcy; others are produced by eating the flesh of diseased animals, tape worm, tricinosis; others, again, such as typhoid fever, by drinking fluids contaminated with the excreta of our own kind suffering from disease. We want to know more of these matters. We know how zymotic and contagious diseases are spread; but what do we know of the origin or nature of even such common and fatal diseases as scarlet fever, small-pox, or syphilis? Our knowledge of the dissemination of disease enables us to do much to check its spread; but if we fully understood the

nature and origin of the poison of scarlet fever, for instance, we might hope to be able to destroy it and to prevent its spread, not by removing from its influence all capable of being affected—that is to say, by running away—but rather by stamping out destructively the thing itself.

R. C., a cartman, unmarried, aged 23 years, was admitted into the Royal Infirmary, Newcastle-upon-Tyne, September 12th, 1887, with a small lacerated wound on the front of the left leg, around which their was considerable bruising. The man's expression excited attention. His eyes were half closed, his forehead wrinkled, the muscles of the face contracted. He was unable to open his mouth. Further examination showed that the back was arched, the abdominal muscles rigid, the legs stiff and extended. The arms were not affected. After the wound had been dressed, and patient made comfortable in bed, he gave the following history:—Six weeks before admission, while eating his dinner, he found himself unable to open his mouth properly. Day by day this inability to open his mouth became more marked. At the end of a fortnight he could not separate the teeth beyond a quarter of an inch; and he came to the out-door department of the Infirmary. A week later—that is three weeks after his first symptoms—he noticed that his legs and thighs were stiff after standing or sitting; but in the course of a few days the stiffness became more marked and continuous, and accompanied by cramp-like pains. The next group of muscles to become affected were those of the abdomen—at first slightly, but soon so much contracted that the belly became as hard as a board, and patient was unable to walk upright. The body was bent forward. Then the muscles of his back became rigid, and the whole body being stiff, he was unable to bend forward or backward. In this condition patient continued to work at an easy job, counting passing carts; and while so employed, on September 12th, six weeks after the first appearance of stiffness about the jaw, a horse took fright, and patient being unable to get out of the way, the cart wheel was violently driven against his leg, causing the injury for which he was brought to the Infirmary. Patient was perfectly certain that he had had no cut, scratch, or wound of any kind before the first stiffness of the jaw, but his occupation exposed him to the weather, and he had been frequently chilled; and on one occasion, shortly before his attack, got wet through while perspiring.

Progress of case. From September 12th till October 12th patient remained in much the same condition—unable to open his mouth, he lay stiff but uncomplainingly in bed. He was kept still, warm, and quiet, and gradually the tonic spasms passed off, till on October 25th he was for the first time able to leave his bed. The temperature of his body was normal during the illness.

With the exception of frequent doses of aperient medicine and occasional doses of chloral hydrate, he received no medical treatment, and he is to-day almost quite well. Now, why did this apparently healthy young man, after exposure to wet and cold, suffer from tetanus? Thousands of people are constantly exposed under similar circumstances to the same influences, and do not suffer from tetanus. I have no doubt exposure to cold and wet is the exciting cause of the disease. *"Horses recently clipped, and sheep recently shorn, are particularly liable to tetanus. Mirbeck reports the case of an infant who died of tetanus four days after receiving full upon the chest a glass of iced water while in a state of perspiration."

The late Professor Bennet Woodcroft, of University College, London, while trying to ascertain the best form of screw propeller, was exposed to cold and wet on the Thames, and contracted idiopathic tetanus. I mention his case because I happen to know that he suffered on several occasions from scarlet fever, showing clearly that he had some peculiarity of constitution predisposing him to take scarlet fever and, possibly, other diseases—tetanus for example. It is known, too, that some races of men are more prone to tetanus than others. Can comparative pathology explain what this predisposing cause or condition is?

How does chilling the surface of the body under certain circumstances, for example, when the subject is sweating, cause tetanus? Why should trismus rather than Bell's paralysis follow exposure to cold? I have always in my own mind been accustomed to look upon tetanus as a purely nervous disease—an exaltation of the polarity of some portion of the grey matter of the cord. It would seem not improbable that a perverse current may be generated by what, for want of a better term, I will call irritation of the periphery of a sensory nerve, which, reaching the cord, causes there some such change as that produced in iron when it is converted into a magnet by the passage of a certain force through it. Cold can so alter the relation of the molecules of steam to each other as to convert a vapour into a fluid and a fluid into a solid. No doubt this argument is far from conclusive, for iron and water are not living bodies any more than were the Florence flasks and their contents used by Sir Joseph Lister while investigating the cause of blood poisoning, and yet to his experiments is due the antiseptic system of surgery. Moreover, we have clinical examples of nervous impressions producing most powerful results. A man sees a horrible sight, or hears a terrible piece of news, and straightway faints or dies. These results have been brought about by impressions conveyed to the brain by the optic and auditory nerves. There has been no neuritis, nor is there in any

* Dr. T. A. McDougall.—*Lancet*, July 19th, 1884.

of the other examples of so-called death from shock. If a nervous impression can cause instant death, it does not seem unreasonable to argue that one of less intensity can be the exciting cause of such a condition as spasm of the voluntary muscles, tonic and clonic. If I understand correctly, it is advanced by Chacot and others that the deformities of joints so commonly met with in locomotor ataxy are due to a morbid current passing from a diseased cord to those joints, and there producing change in their nutrition, and alteration of their structure. It is just as likely that a morbid current passing from the surface of the body should be able to produce change of structure, or of the function of the cord. All the phenomena of idiopathic tetanus are explicable on the theory that the disease is due to a morbid or perverse nervous current. But there is another more common and more fatal form of the disease—traumatic tetanus. Dr. B. Richardson and others believe that blood poisoning is the cause of traumatic tetanus, and some very strong evidence in favour of this view is now before the profession.

At the medical congress lately held in Washington, Dr. Shakespear read a very important paper, giving the results of some fifty injections into animals of a suspension in water of particles of the medulla oblongata taken from an animal immediately after death from traumatic tetanus. In every case where the fluid was injected "sub dura cerebri," the animal died of tetanus; and it must be admitted this is strong evidence, if not positive proof, that a specific poison is stored in the medulla oblongata of animals suffering from traumatic tetanus. When Dr. Skakespear injected some of the same fluid into the cellular tissue of the body, or into the muscles, the animals died also, but not from tetanus. That seems to me a most significant circumstance, tending to some extent to weaken the argument that a specific blood-poison is the cause of tetanus. When portions of the spinal tissue of an animal which has died of tetanus are brought in contact with the brain—that is to say, with nervous tissue—tetanus is the result; but when the same material is brought in contact with other tissue, and is absorbed into the circulation, death ensues from blood poisoning, but not from tetanus. These experiments must be looked upon as most important. They will require to be repeated, and the subject might as well be worked out in Newcastle-upon-Tyne as in America. It would be rash to express any opinion as to what will be the result of further experiments; and in the meantime we have the clinical history and the effects of treatment only to guide us in coming to a conclusion as to the explanation of the phenomena of tetanus. It will not, I suppose, be argued by those who adopt the theory that traumatic tetanus is due to a blood poison, that the materies morbi is introduced into the wound as the poison from a snake-bite undoubtedly is. It will be said the

disease is due to the absorption of some secretion from the wound. If this were true—reasoning from the clinical history of other septic diseases, due to the absorption of fluid in a state of change from a wound, which the late Mr. Nunnerby, of Leeds, demonstrated was the cause of pyœmia—we certainly should expect to find more decided symptoms of general constitutional disturbance than we meet with in cases of traumatic tetanus. All diseases admitted to be due to septic absorption are characterised by fever, the temperature often rising to 105, but this is not the case in tetanus. It is true that some poisons—strychnia and woorara, for example—exert an elective affinity, if I may so describe their action, and expend their influence on particular parts only of the spinal cord, in the one case causing clonic contractions, and in the other paralysis of the voluntary muscles. The materies morbi of tetanus, if there be one, may be similar to strychnia. If so, it is the only example, so far as I know, of a poison generated by the body acting upon one portion only of the nervous system. The strongest argument against the theory that traumatic tetanus is a blood disease is, however, derived from the effect of treatment. There is no antidote nor specific known for tetanus, and more has been gained from surgical than from medical treatment.

In the October number of the "Veterinarian," kindly lent me by Mr. Clement Stephenson, a case of traumatic tetanus is reported, where the disease was immediately checked and cured by division of the plantar nerves, the wound being in the foot of a mare. Dr. McDougall, of Carlisle, has recorded cases of traumatic tetanus cured by division of nerves in the human subject. Dieffenbach details a case of tetanus cured by the removal of a piece of glass lying in close proximity to a nerve; and there are many other similar instances on record. On three occasions my colleague, Dr. Arnison, has stretched the median nerve in cases of traumatic tetanus following a wound of the hand, and all the patients recovered. These results cannot, surely, be all coincidences; and they tend to show—almost, I think, to prove—that some influence ceased to reach the spinal cord after division or stretching of the nerves along which it travelled, just as the electric current is arrested by a cut wire. I cannot see how dividing or stretching a nerve could control or cure a blood disease. I would also further point out that tetanus has followed other injuries than wounds. Sprains, bruises, and, indeed, almost every kind of injury, has been followed by tetanus It is agreed that idiopathic and traumatic tetanus are one and the same disease, differing from each other more in degree than in nature. Whether a materies morbi in the blood, or some perverted nerve force, be the cause of tetanus, can only be determined, I think, by experiments—such a series of carefully-conducted experiments as a thoroughly equipped department of comparative pathology

would afford us an opportunity of carrying out. I do not believe there would be any difficulty in finding men in our midst willing to work in such a field; and I look forward to the time when they may have the means of doing so placed at their disposal, in the full expectation that the reputation of our school of medicine in this district, and of scientific investigation generally, will thereby be promoted

Dr. LIMONT: I fail to be convinced either of Mr. Page's pathology of tetanus or of the fact of this being a case of idiopathic tetanus.

In considering the causation of tetanus I think we ought to begin by discussing the causation of the frequently met with traumatic form, and afterwards turn to the rare cases of so-called idiopathic tetanus.

Mr. Page details experiments where the medulla oblongata, broken up in water and injected beneath the dura mater, gave rise to fatal tetanus; but where injected into the cellular tissue killed, but not by tetanus. I have not seen a report of these experiments, but there are others recorded which seem to point strongly to a different explanation of the pathology of tetanus. Rosenbach got a characteristic bacillus, and on injecting gangrenous material from a case of tetanus he produced fatal tetanus in animals. Watson Cheyne, with fluids from the same source, was also able to produce tetanus; and further, he found that if he introduced many bacilli the tetanus was rapidly fatal; if he introduced fewer it was more slowly fatal; and if he introduced very few, that the animal suffered from tetanus, but recovered.

Those who argue that cold and wet are the causes of tetanus point to the number of cases that arise among those who are left exposed on the field of battle. But I would remind you that these are the wounded, and that, moreover, they are left lying on the earth; and that it has been found on experiment that earth treated with water contains a bacillus which, when injected into the body, produces tetanus.

Mr. Page refers to what is reported in veterinary surgery in support of his argument. Well! Veterinary surgery also supplies arguments on the other side. There is the case of a surgeon who, in making a *post-mortem* on a horse that had died of tetanus, scratched his hand and soon afterwards died of the same disease. Then there is the remarkable experience of a French veterinary surgeon, who amputated a tumour of a horse's testicle with an ecraseur, and the animal died of tetanus. With the same ecraseur he afterwards castrated five successive horses, and every one of them died of tetanus. He then disinfected the ecraseur by the heat of a flame, and had no more cases of tetanus among his other castrations.

On looking at the medical papers for the last year or so, I have failed to find any full and satisfactory report of a case of idiopathic tetanus. Cases are published under that name, but no attempt is made to show there was not traumatism.

In this case of Mr. Page's I would certainly object to its being regarded as idiopathic. There is indeed no external wound to account for it; but in examining him I found several very much decayed teeth, and the gums in an inflamed and ulcerated condition. So far as I could make out this had not arisen since the tetanus came on, but before it, and that being so, I consider that this is a very probable starting point for the disease. Dr. Robertson, of Glasgow, reports last year a case very similar as regards its character and duration, in which there was the same condition of the gums, and in which the commencement of inprovement dated from the treatment of these parts.

Dr. PHILIPSON: I must express my admiration of the able paper with which Mr. Page has favoured the Society. In my opinion, the symptoms which characterise tetanus are referable to an abnormal influence of the nervous centres which control the action of the voluntary muscles. After death from tetanus, the pathological changes in the spinal cord are found to consist of hyperæmia of the tissues and structureless exudations in the grey matter of the cord. In traumatic tetanus, there is much in the phenomena presented to lead us to think that the violent contraction of the muscles is due to irritation set up in the peripheral distribution of a nerve, and that this hyper-action is conveyed along the nerve to the spinal cord, exciting by reflex action the muscles to a state of spasm. The irritation subsequently extends, and so the whole length of the spinal cord becomes implicated, a slight impression on the skin producing general tetanic convulsions. In idiopathic tetanus, the same explanation would apply—that in an individual highly susceptible to atmospheric changes, by the sudden chilling of the surface, a disturbance of the peripheral nervous distribution was occasioned, which was carried to the cord and reflected in tetanic spasm. Tetanus is a malady which runs a definite course, although its duration is not so definitely defined as that of some other diseases. In a usual way, it is from three to four weeks. In Mr. Page's case it would seem to have been prolonged. If patients survive the eleventh or twelfth day, they generally recover. The thermometer is a most valuable aid in prognosis. Certain rules as to the estimation o the danger are obtainable from the thermometrical observations. Generally, it might be stated that, if the temperature does not run above 101° F., the case is hopeful; if higher than this, there is cause of great apprehension; and, if above 103° F., there is reason for the greatest anxiety. In Mr. Page's case the temperature had been noted as never high.

Concerning the treatment, my feeling is that there is no system which can cut short the progress of a case of tetanus; and, therefore, the indication is to employ every effort to keep the sick person alive during the illness through which he is passing. As means to this most desirable end, it is necessary that he should be carefully and regularly supplied with nutriment, and, if possible, sleep should be secured every day. No medicine is equal to the hydrate of chloral in procuring sleep. It should be administered in forty-grain doses, at bedtime, and in severe cases an additional thirty grains should be given at midday. In my opinion opium, Indian hemp, and Calabar bean are much less efficacious than hydrate of chloral.

Dr. Heath: Mr. President, Mr. Page deserves our thanks for his interesting and suggestive paper. He speaks in it of the chain of comp. pathology to be established in the new College of Medicine, and hopes that by its means light may be thrown upon such subjects as the nature of tetanus. I entirely agree with Mr. Page; and as the subject of comp. pathology has been brought before the society, I should like to say that I have upon more than one occasion recently spoken publicly upon the importance both of comp. pathology and sanitary science as departments of the College of Medicine. I have done this, not that these departments are at all specially connected with my own work, but because I entertain a strong opinion that their cultivation will confer upon our profession a largely increased power of amelioratory and prolonging human life. The careless feeding and keeping of stock, and the mixing up of animals, is a fruitful source of parasitic disease, both among animals themselves, and among human beings. For example, sheep become affected with liver fluke, by feeding in low-lying, damp pastures. The embryo of the fluke inhabits as host the body of a species of snail found in such pastures near the ground. The sheep being close feeders, crop the grass very bare, and pick up the snail, which delivers the embryo of the fluke in the interior of the sheep, whence it finds its way to the liver. I have myself seen of fluke *sistoma hepatium* in the human subject on the *post-mortem* table, and I have no doubt the disease has been acquired from certain parts of the sheep used as food. Hydatid disease also—more serious than tape-worm—is most frequently acquired directly or indirectly from animals. Mons. Aguste Miorer, recently at a meeting of the Union Medicate, at Paris, speaking on this subject, stated that dogs were the frequent carriers of hydatid disease, and that human subjects might be affected in consequence of the dog licking the face. He also said that the amount of hydatid disease in a country was in proportion to the number of dogs in it. However this may be, we know that in Iceland, where, a few years ago, tape-worm and hydatid disease were extremely prevalent both in animals and man, large numbers of dogs are

kept as well as sheep and oxen, the dogs mixing indiscriminately both with the herds and flocks, and with the human beings in their houses.

In this country, moreover, one has only to notice what goes on in agricultural districts to understand how parasites in disease, whether tape-worm or hydatids, may be communicated from animals to man. The colley dog about a farm not unfrequently has tape-worm ; he voids the ripe joints in a straw-yard where pigs are allowed to rout ; the pig picks up the ripe joint full of eggs, which pass into the stomach of the pig and give out the embryos which find their way into the flesh of the pig and form the cystic worm, which (when swallowed by a human being) developes into tape-worm. Or perchance the joint escapes the pig, but this dries, bursts, and distributes the eggs in various positions the wind blows them ; they drift on to grass, garden vegetables, water courses, and elsewhere, and are picked up by animals or man, causing hydatid disease in various parts of the body—the eye, stomach, liver, &c. —causing loathsome and dangerous diseases.

Mr. Page raises in his paper the important question : "What is the real nature of tetanus?" The answer to this question which has usually been given, and which I should myself be inclined at present to give, is that tetanus is the result of irritation of a nerve, transmitted to the spinal cord, and thence reflected to the muscles which are the seat of the striking phenomena of the disease ; this abnormal condition of the nerve being the result of medianal injury. In a very large proportion of the reported cases of lock-jaw, some branch of nerve is stated to have been found injured and inflamed. One of the most striking of those is related by Liston in his "Elements of Surgery." In this case the wound lacerated was between thumb and fore finger. The hand was amputated after lock-jaw set in, and on examination of the part a branch of the median nerve was found partially divided and thickened. The patient died ; and at the *post-mortem* the median nerve itself was found inflamed at the bend of the elbow.

Dr. Limont has, in his careful and interesting remarks, mentioned experiments which would go to show that a microbe of some description was the cause of tetanus. I did not understand Dr. Limont to say that a specific microbe had been cultivated and positively ascertained to give rise with any degree of certainty to tetanus, by means of its introduction into a wound by injection, and manifest by experiments in which some microbe is introduced into the spinal cord, are open to obvious objections. At any rate, we can scarcely consider what has as yet been done in this direction as conclusive ; whilst the fact that tetanus has been cured by the division of the affected nerve as well as by nerve stretching, is rather in favour of the ordinary view, unless we suppose the microbe to be one which can only exist in

the nervous matter itself, and that the irritation caused by it can be propagated to the nervous centres, independently of its own presence there.

But the great difficulty in regard to the microbe theory is the cases such as those related by Erichsen, where tetanus has arisen from injury without wound, *e.g.*, where the back was bruised by the wheel of a barrow.

The subject is a highly interesting and important one; but I cannot help thinking the weight of evidence at present is against the new theory, and that more numerous and very careful experiments are required to elucidate the matter.

NORTHUMBERLAND AND DURHAM

MEDICAL SOCIETY.

SESSION 1887-88.

DECEMBER MEETING, 1887.

The Third Monthly Meeting of the session was held in the Library of the Royal Infirmary, Newcastle-on-Tyne, on the evening of Thursday, December 8th—Dr. Hume (President) in the chair.

NEW MEMBERS ELECTED.

The following gentlemen were unanimously elected members of the Society :—

T. B. Martin, L.R.C.S., Sunderland.
T. A. Collinson, M.R.C.S., Durham Infirmary.
George Rolph Raine, M.D. Lond., Darlington.
J. Ratcliffe-Gaylard, L.R.C.P. & S., Shildon.
James R. Lownds, L.R.C.P. & S., Catchgate.
Thomas Duncan, M.B., C.M., Catchgate.
Robert Collie, M.D., Sunderland.
John Cromie, L.R.C.S., Blyth.
A. Arnold, Lic. Med. Dunelm, Bishop Auckland.

NEW MEMBER PROPOSED.

The following gentleman was proposed for membership :—

Mr. May, Scotswood Road, Newcastle.

HONORARY MEMBERS ELECTED.

On the motion of Mr. Page, seconded by Dr. Philipson, the following gentlemen were unanimously admitted honorary members of the Society :—

Mr. Clement Stephenson, M.R.C.V.S., Newcastle.
Professor Bedson, College of Medicine, Newcastle.

CICATRIX ON ARM.

Dr. HEATH: I show this case for the third time, to enable members to see the termination of the case so far as the warty disease is concerned.

The drawing exhibited will give an idea of the condition when treatment was commenced.

The warty growths have been destroyed by repeated applications of chloride of zinc paste, and new structure built up by a free application of skin-grafts on the resulting granulating surface.

The treatment has been somewhat retarded by the extension of disease in new directions whilst the old growths were undergoing destruction, and upon one occasion by the appearance of the wart formation in a graft after it had begun to grow.

The case has seemed to me interesting as being a typical example of the morbid deviations from healthy structure occurring in scars, especially burn-scars; and, also, as showing that such growths, however closely allied to epithelioma, are nevertheless sometimes different both anatomically and clinically.

At present, moreover, when the mind of the profession is a good deal stirred by the subject of cancer, both on account of the Crown Prince of Germany's case, and also by Sir Jas. Paget's lecture, these warty growths are interesting. I would not wish to initiate a discussion upon cancer at this time; but I could not help thinking that our present knowledge is rather in favour of the view that cancer resembles in nature and causation the other members of the epiblast group, such as adenoma and warts, than those of the class of infective granulomata.

A SERIES OF CASES OF EXCISION.

Dr. ARTHUR CAMPBELL: I would have preferred waiting, in order that time might pass judgment on this case, but the prospect of a discussion on excision of the knee-joint to-night led me thus early to exhibit this girl. On the 6th March, 1885, I performed excision of the knee-joint for disease of several years' standing, removing at that time a considerable amount of bone, much of the synovial membrane, and the patella; I also scraped out a diseased cavity in the tibia. The operation was done under carbolic spray, and Esmarch's bandage was used. With the exception of one or two small abscesses, the wound healed fairly well, and she discarded her crutches fifteen weeks after the operation, remaining in good health, and with a useful limb up to December, 1886, when a severe fall injured the limb, and lessened its firmness, causing pain and difficulty in walking; and later a small sinus opened, rest and supports seemed to do little good, and she urgently asked for some further operative interference. On the 8th of September last, I opened out the joint, breaking through with considerable difficulty

the strong fibrous and bony union which existed; and refreshing the ends of the bones, I pegged them together with Baker's pins. I did not use spray or Esmarch's bandage; the wound healed by first intention; one peg became loose, and was removed on the tenth day, the second at the end of three weeks. The girl walked without support on 25th November, and on the 28th was able to stand for $6\frac{3}{4}$ hours at household work.

Dr. Hume: In the two cases of excision of the knee which I now bring before you, the operation was performed by the usual transverse incision and removal of the patella. Great care was taken to dissect away the whole of the pulpy synovial membrane. This was done from the pouch under the rectus muscle as well as from the cavity of the joint. The bones were pegged together—in the one case by ivory pegs, in the other by steel pins. When removed, the ivory pegs were found corroded and partly absorbed. The advantages gained from the greater immobility of the joint secured by pinning the bones were very evident. Union of the bones in one case took place very rapidly, and in both there was a marked absence of the pain which in knee excisions is often very great whenever rubbing between the inflamed surfaces of bone takes place. The splint used was a narrow band of iron, with foot piece, placed on the posterior aspect of the limb and secured with plaster of Paris.

This patient is a lad whose ankle I excised last winter, and I show him now as being of some interest among the others. The case did very well at first, but subsequently there set in some suppuration of the sheaths, which I attribute to a faulty method of putting up the case after operation. The splint was put on in front, and there was want of support behind the joint; and to this also must be attributable a partial necrosis of the fibula which took place. In the first instance the operation was undertaken to cure a deformity arising from a precedent compound fracture. The boy now, as you see, has a very perfect joint, on which he walks with ease.

Mr. Rutherford Morison: Two years ago this patient came to me complaining of pain and swelling in her ankle. Her history was: that the night before seeing me she knocked her ankle, causing great pain in it, and on undressing it found it swollen for the first time. On examination I found what I took to be a tumour growing from the lower end and inner surface of the fibula, and separating the two bones from each other.

In January, 1886, I removed the growth by operation. An incision, about $3\frac{1}{2}$ inches long, was made over the outer surface of the fibula. The structures, extensor tendons, vessels, &c., on the front of the ankle were separated from the anterior surface of the tumour; the peronei tendons were divided on

the outside; the structures, tendo achilles, &c., at the lower part of the ankle were separated from the posterior part of the growth; the fibula divided well above the tumour, and its lower end separated from its attachments by division of the ligaments of the outer ankle. I then found that the tumour was attached to the outer surface of the tibia. A further dissection exposed this attachment, which was divided with a hammer and chisel. The wound was now dressed in the usual way.

The parts removed were exhibited at a previous meeting of the Society in their fresh state. They consisted of a cartilaginous tumour, about the size of a Tangarine orange, with the 2½ inches of lower end of fibula, which was expanded over and closely attached to the tumour. On the opposite side of the tumour a divided surface, about the size of a halfpenny piece, shewed the point of attachment to the tibia.

The patient can now walk without limp, dance, and jump on the leg which has been operated on as well as on the other. In every respect but the known absence of the lower end of the fibula, the limb is perfect.

The three points of interest in the case are:—1. The misleading history of accident as a cause. 2. That no recurrence of the tumour has taken place. 3. The perfect recovery after removal of so much fibula and necessarily exposure and manipulation of the ankle-joint.

Case 2.—This boy had ordinary gelatinous disease of the elbow, in which suppuration was just commencing. A year ago I excised his elbow in the usual way, and have brought him forward to shew you the result. With his shirt still on, it is impossible to say which arm has been operated on. The movements of flexion and extension pronation and supination, as you see, are perfect. This result I attributed to an early operation, and to movement begun soon after. Pus was found in the joint, but had not burrowed through the capsule and disorganised the soft parts. Movement was begun on the fourth day after operation.

Dr. Arnison: I remember some time ago shewing to the Society some cases of excision, in one of which there resulted a movable joint. At that time there was some discussion as to whether it was more desirable to have a fixed or a movable joint. I have kept a watchful eye over that case since; and though to my mind it was at first a much too movable joint, it has since done rather better, and has become firmer, but it will always require some support. I am quite sure I shall in future always aim to secure a fixed joint. If one were fortunate enough to get a joint just a little movable, it might perhaps be better than one absolutely rigid; but at present there can be no question that the safest procedure is to aim from the first for a stiff one.

Dr. Arthur Campbell: I should like to hear an expression of opinion as to how much of the synovial membrame one should remove in these cases—whether the patella should be taken away or cut across, and fixed afterwards, so as to secure support for the extensor muscles, and whether also these cases should be put up in plaster of Paris. I had one case in which there was very great pain given in removing the plaster bandages. In the first operation in the case which I shewed I put the limb up in plaster, but on the second occasion I put it up on a Liston fracture splint, padding the splint well and bound down the limb with many rows of bandages. Plaster is very uncomfortable and very unclean from the oil of dressing, &c., and it is, in my opinion, to be condemned, though it may be of some service in the case of young children where a firm and heavy support is rendered necessary to fix the joint and prevent the patient from kicking the limb about.

Mr. Croft: In this extremely interesting subject, and in the points which have been so ably put forward to-night, are matters which have been under discussion for many years. First, in regard to the question of excision at all, I am glad to find myself here in Newcastle, where excision is the rule, and not the exception. I think it a cruelty in treating the diseases of the poor to keep them waiting for years, it may be, to give what some people are fond of calling the "process of natural repair" a chance, while an operation well performed may cut their sufferings short by a matter of eighteen months or two years at the least. Dr. Campbell has asked how much of the synovial membrane should be excised in these cases, and I say most emphatically that on such a point you can lay down no rule at all. The only safe plan to follow is to excise every affected portion—not a scrap of diseased tissue should be left. We proceed with this operation on a principle, or we do not. If we proceed upon a principle, that principle must be to remove every particle of disease which exists in or about the joint. The disease may not be confined to the line of the synovial membrane; it may be about the epiphyses, or about the sub-chondrial tissue; but, wherever it is, it must be removed. In regard now to sutures. You have the steel rods, you have the ivory pegs, and you have silver sutures. Ivory pegs, as a rule, meet the fate of that very interesting specimen which Dr. Hume has shewn us to-night. Of the steel rods I have no experience, but I have used repeatedly platinum sutures. We make a valvalar incision, which gives us a wound completely covered, and the sutures are hammered down and left. The sutures are a great assistance in preventing the pain occurring so often in the after dressings. I consider a modified Liston's splint a most excellent assistant in putting up these cases such a splint as Dr. Hume has here on the table, which is, after all, but

a modification of a modification of a MacIntyre's splint. Plaster of Paris bandages are an unmitigated nuisance, but the plaster of Paris splint is a most useful apparatus indeed, and I can recommend it. In the case of excision of the ankle, which Dr. Hume has shewn, we have a case where the condition of the joint and the deformity were traumatic in origin, and the indications there are different from what we have when we deal with a case in which the condition is due to nutritive changes, such as we find in strumous and tubercular patients.

Mr. PAGE showed a lad, the condyle of whose jaw had been excised for ankylosis, and said:—As I have already read a paper on this case, I do not propose to make any further remarks. It was my intention to have shown this youth at the last meeting of the Society. I am glad to be able to do so to-day.

Mr. CROFT: The splendid result we see before us of Mr. Page's operation can be accounted for by the operation being a unilateral one. Had both condyles been ankylosed, the success would not, I fear, have been so marked as we here see it. I do not, however, by this mean to depreciate the result, which is one on which Mr. Page is to be heartily congratulated.

TRAUMATIC DISLOCATION OF BOTH LENSES.

Dr. MURPHY: About three years ago this man, while "larking" with some friends, had a finger pushed into his left eye, with the result that the lens was dislocated. I removed the lens shortly after the occurrence, and he has now got a fairly useful eye on that side. He can tell the time by a clock, count fingers held up before him, &c. Not content, apparently, with his previous experience, he some time ago got sparring once more, and this time it was a friend's elbow that found its way into his eye—his right eye on this occasion. The lens in this eye also was dislocated, but I have not interfered with it, and it is gradually becoming absorbed.

Mr. WILLIAMSON: I have examined this man's eyes, and it constrains me to emphasise the advice that one should in dislocation of the lens invariably follow the recognised practice of removing it. In the present case, the eye where this has been done is the best eye of the two. I should advise that the man be provided with glasses.

Dr. MURPHY: I have already applied that he should be supplied with a pair of spectacles.

Mr. WILLIAMSON: Give him two pairs, a pair for distance and a pair for reading.

LEUCOPLAKIA OF TONGUE.

Dr. MURPHY: I bring before you here a case of ichthyosis, or as it is now described leucoplakia of the tongue. The patient has been all his life a healthy subject, but has for many years been a very heavy smoker. About six weeks ago he came to me complaining of the condition of his tongue, which was then rather worse than you now see it. Since then he has been under treatment by arsenic and pot. iodid. The condition is a common one; but I shew it to elicit some expression of opinion as to the best method of treating such cases. According to Mr. Moran Baker and other authorities on the tongue, these cases seldom go on to malignancy. In my own experience they nearly always end in epithelioma, and, therefore, I should be glad to have the experience of members on the mattter.

Dr. DRUMMOND: Have you ascertained whether the man has ever suffered from syphilis? In my opinion the condition of the tongue is specific in origin. I had one very similar to this under treatment which yielded to the usual anti-syphilitic remedies.

Dr. MURPHY: I never ask a patient whether or not he has suffered from syphilis, for the very good reason that I don't believe he would tell me the truth if I did. I make an examination for myself, and form my conclusions accordingly. In this case I do not believe the man has ever had syphilis, and the condition of the tongue, I am convinced, is not syphilitic in origin. I prescribed arsenic, and my house surgeon added, on his own account, pot. iodid., and whether it is due to the one or the other, the tongue is certainly improving.

MITRAL STENOSIS.

Dr. DRUMMOND: The features of the case to which I wish to invite the attention of members to-night are briefly as follows:— The patient is a young woman, 17 years of age, single, and she has been out of health for upwards of eight months, though as a young girl she suffered more or less from shortness of breath on exertion. She has never menstruated. There is no history of any distinct attack of rheumatism, but from time to time she has complained of pains in her joints. Her present illness appeared to originate in a cold, and at the commencement she was laid up with a cough and difficulty of breathing, which confined her to bed for a week. She has since suffered from shortness of breath on exertion, cough, pain in the chest, and occasional though slight hæmoptysis. She is a thin delicate girl, and at present is well-nigh free from subjective symptoms. The pulse is regular, but small and rapid, and we have experienced great difficulty in reducing its rate, which now averages about 100 in the minute.

The apex of the heart is diffused: the impulse is visible in the fourth, fifth, and sixth interspaces, the upper limit (*i.e.* in the fourth interspace) being close to the sternum, whilst the lower, in the sixth interspace, which is the true apex beat, is four inches from the margin of the sternum. Thus the systolic impulse affects a considerable portion of the precordia.

A well-marked thrill can be felt, and is best marked at the point of greatest impulse in the sixth interspace. This thrill distinctly precedes the systolic impulse, and appears to commence immediately after the diastolic sound. It runs up to the ventricular movement, and often into it; for at times the most distinct part of the thrill, which is at its termination, seems to be actually systolic, though it is plain that it often ends before the systole commences. On auscultation at the extreme apex, and a little to its right, a loud, harsh murmur is audible, and seems to run up to the apex beat, occupying the pause or distole. Between the commencement of this bruit and the second sound there is a very short pause, which at times is scarcely appreciable. There is no systolic murmur, and the systolic sound appears to be simply represented by the sharp and abrupt termination of the rough presystolic murmur. At the base an accentuated second sound can be heard over the pulmonary valves, and here the sounds are frequently re-duplicated.

That is the case I would like to make the subject of discussion to-night, and I trust members will examine the patient for themselves, for I cannot resist the temptation offered by the presence of our distinguished visitor, Dr. Howship Dickinson, to offer a few remarks upon the opinions advanced in his exceedingly interesting and valuable papers that have recently given rise to so much discussion since their publication in the columns of the *Lancet* of October 1st and 8th. I refer, of course, to the origin of the murmur that all admit to be characteristic of mitral narrowing. I venture to think that Dr. Dickinson, though perhaps heartily tired of a subject about which he has heard so much of late, will forgive me if I take this opportunity to renew a discussion commenced in June in the drawing room of our friend, Dr. Philipson, when perhaps neither the time nor the place were suitable for scientific discussion; and when, I am afraid, we not only left the matter where we found it, but ourselves in some degree of fog respecting each others opinions. Since then, however, Dr. Dickinson's papers have been published, and all are familiar with the interest they have excited and the storm his views have raised upon a surface so placid that it appeared for all time to come to be sheltered from the disturbing influence of critical discussion. I have taken great interest in the discussion, and I confess I indulged in the hope, as I watched it draw to a close, that the heavy metal brought to bear upon Dr. Dickinson's position had so shattered it as to cause a breach wide enough for

more humble individuals like myself, who are not fond of writing to the papers, "to ride through," but wide enough also to allow the author of all the mischief to escape, covering his retreat by the ruin. However it is not so, for, as all know, Dr. Dickinson in his reply repels the attacks of his adversaries with great skill, determination, and persuasive ability, and still stands to his guns.

For the benefit of those who have not followed the discussion carefully, I may state briefly how the matter stands, and what is the point in dispute. We all admit that mitral stenosis is to be recognized by a certain murmur, which, in the majority of instances, is rough and grinding, and terminates in an abrupt shock or snap, and is best heard slightly above the extreme apex, and is accompanied by a thrill. This group of phenomena, when present, leaves no room for doubt as to the nature of the case—it means mitral obstruction. I do not propose to deal with the so-called mitral diastolic murmur—a murmur often soft and short, and usually inseparable from the second sound; nor do I concern myself with the short bruit that occasionally is heard in the middle of the pause, for I believe that when they are present as signs of mitral stenosis, they are usually part and parcel of the characteristic rough murmur I have just referred to (a murmur that often varies); and on the other hand I have frequently been disappointed at the *post-mortem* examination when the diagnosis has been founded on these intermediate murmurs alone. Prof. Gairdner taught years ago that this rough murmur was presystolic in rhythm or true auricular systolic, and was caused by the blood passing through the constricted mitral orifice into the left ventricle; and this is the view that I am prepared to advocate to-night. Dr. Dickinson, on the other hand, has questioned the rhythm of the murmur, supposing it to be systolic, and has advanced the view that it is caused by blood regurgitating back into the auricle through the narrowed opening during the earlier part of the ventricular systole, the mitral valves closing slower than in health, on account of their rigidity. From this point of view, therefore, the murmur of mitral stenosis is a murmur of insufficiency. The principal arguments advanced by Dr. Dickinson in support of his opinions are four: first, he objects that the auricular walls are too weak to produce such a murmur (so loud and rough) by forcing the blood through the mitral orifice, even though it is narrowed; secondly, he contends that clinical observation has taught him that the murmur and thrill correspond in time with the earlier part of the systole, as shewn by the ventricular movements (impulse); next he urges, and this is really the argument to which he appears to attach most importance, that as the so-called presystolic murmur runs, as a rule, into this snap or first sound, or in cases of double murmur into the murmur of regurgitation (systolic), there being no pause to separate the two, there-

fore whatever causes the second murmur must be responsible for the first, as it was unlikely that the direction of the blood could change so rapidly; and lastly, Dr. Dickinson considers that the ventricular movements or impulse greatly exceeds its corresponding auscultation sign—the short first sound or snap, and therefore it seems absurd that a muscular effort so powerful should produce such an insignificant sound.

It is scarcely requisite for me to enter into all the arguments that have been advanced to meet Mr. Dickinson's first objection. It is only necessary to point to the short time occupied by the blood in passing from the auricle into the ventricle, through the narrowed orifice, to suggest that the current must be rapid (whether the force be chiefly suction by the ventricle or expulsion by the auricle), and therefore capable of producing the fluid "veins" that underlie the bruit. Attention has been called to the loud sound produced by making pressure upon the vein by the stethoscope, and I would like to add that I have lately experimented with two thin-walled indiarubber balls, one of which, when filled with water, was made to empty itself into the other by gentle pressure, through a tunnelled cork, whilst auscultation was practised, with the result that a loud and rough sound was produced. Of course, the conditions here are quite unlike those obtaining in the heart; but the experiment suggests that a loud murmur can be produced by fluid passing, even at low pressure, through a narrowed orifice. To Dr. Dickinson's second argument it is difficult to reply, inasmuch as it is a question of personal observation—and we must all acknowledge Dr. Dickinson's great ability as an observer; so I can only say that, although I have carefully investigated the point, I have been unable to verify the statement that the bruit corresponds with the earlier part of the ventricular movement, except in some few instances when the presystolic murmur was very short and by no means characteristic; for in typical examples, such as I have brought forward to-night, the rough grinding murmur, in my opinion, precedes the apex beat.

We have next to consider Dr. Dickinson's most formidable objection. But I venture to think that too much importance has been attached to this point; for I can see no difficulty in a direct mitral murmur terminating abruptly in a systolic sound or murmur, especially when the heart is beating fast, as is often the case in mitral stenosis. Is it not probable that the ventricular systole commences the moment the auricle empties itself? And, as the orifice is small, is it not likely that the very earliest part of the systole will be directed towards, at all events, an attempt at closing it, and hence the snap, or if the valves are too rigid to close the orifice—a modified snap followed by a murmur. In some cases there is an appreciable pause between the presystolic bruit and the systolic shock or snap, and I think this is frequent enough

when the heart-rate is slow; and, in illustration of the fact, I would instance a case that is at present in the Infirmary under the care of my colleague, Dr. Limont. I refer to a young woman with mitral stenosis and regurgitation, whose murmurs are a rough grinding presystolic bruit that occupies the pause, followed by a soft blowing systolic murmur after a distinct interval. Dr. Dickinson asks how it is that in the case of the aortic valves there is always a pause between the to and fro murmurs of stenosis and regurgitation, when there is none between the corresponding mitral bruits. I think we have lost sight of the fact that the conditions are not the same. In the case of the aortic orifice, the diastolic bruit can only begin after the ventricle has commenced to expand once more; and as the ventricle is known to maintain its contraction after it has discharged its contents, there must be a short delay. And, again, we cannot compare the recoil of the aorta with a comparatively free outlet onwards, to the actively contracting ventricle.

As regards the force of the apex beat, I am of the opinion, from extensive pathological experience, that in the majority of the cases the chief part of the impulse is really right ventricular, as that cavity is generally considerably enlarged, whilst the left ventricle is often correspondingly diminished.

In conclusion, I propound two questions for Dr. Dickinson to answer: first, if the rough bruit of mitral stenosis be truly a part of the ventricular systole, how is the auricle able to empty itself through the contracted orifice in the short time that marks the interval between the second sound and the beginning of the murmur? and, secondly, if the mitral curtains are so tardy in closing, owing to rigidity, how does it happen that the tricuspid valves, which are free from rigidity, do not close first, and in this way produce a reduplication of the first sound?—a phenomenon that ought invariably to attend the presystolic murmur if Dr. Dickinson's theory be correct. I have purposely passed over the fact of the two murmurs, presystolic and systolic, being entirely different in pitch, and the direction in which they are conducted, for though arguments of importance, they are old, and have been employed already in a telling way by others.

Dr. Oliver: The society is deeply indebted to Dr. Drummond, not only for the very able and interesting manner in which he has introduced the subject of mitral stenosis and the presystolic murmur, but for creating the opportunity, and for us a privilege, of hearing Dr. Dickinson, who fortunately happens to be in Newcastle-upon-Tyne at present, as the foreign examiner in medicine of the University of Durham, and who may address a few words to this assembly upon the so-called presystolic murmur. So far as I have been able to follow Dr. Dickinson in his extremely carefully-prepared papers which appeared in the *Lancet* two or three months ago,

I believe his contention to be briefly this: that the so-called presystolic murmur is not presystolic so far as the movement of the left ventricle is concerned, but is systolic, and therefore due to mitral regurgitation. He draws attention therein to the statements that have been made by most writers upon heart disease, that the presystolic murmur runs up to the systolic sound, and that it is inseparably blended with a systolic murmur when there is one. Against these he argues that there is in cases of mitral stenosis always a certain amount of regurgitation—particularly at the early part of the systole of the ventricle, and that it is this regurgitation period which is marked by the rough murmur hitherto but falsely called presystolic—the snap which ends the sound corresponding to the forcible closure of the thickened segments of the mitral valve. Dr. Dickinson does not deny the existence of a murmur heard over the apex area, and pointing conclusively to the existence of mitral stenosis; but this, he says, is a soft blowing murmur, and is diastolic or post diastolic in rhythm. No thrill accompanies it—in fact if thrill is present over the apex area, then to his mind this is positive proof of the murmur being systolic, and therefore due to regurgitation. Now I quite agree with Dr. Dickinson in regard to this so-called mitral direct murmur of Hope, which is diastolic or post diastolic. In several of my own cases, where aortic regurgitaton has not been present, and neither difficulty nor complication has therefore been introduced into the case, from this source at least, the detection of a soft diastolic murmur over the mitral area, and separated by a short interval from the systolic—for the two have generally been present—has enabled me to diagnose the case as one in which contraction of the mitral orifice was present, and *post-mortem* examination has confirmed this opinion. But for all this, I am not inclined to throw overboard the presystolic murmur nor the lesson which it teaches. In regard to Dr. Drummond's case, which I have through his kindness had frequent opportunities of examining in the wards upstairs, there is not the least doubt in my own mind as to the existence of mitral stenosis, pure and uncomplicated: if mitral regurgitation is present it must be slight; the murmur occurs immediately after the second sound is heard; it lasts all through the diastole as a loud rough rolling murmur, and ends in a sharp snap—the first sound. As Dr. Drummond has, and in my opinion properly, put it, how can we look upon this murmur as being one of mitral regurgitation? Occurring immediately after the second sound, when the systole of the ventricle has just been completed, the ventricle is filling and not emptying: it is filling from the auricle, and the murmur accompanying this act must be auricular systolic or presystolic. The length and the loudness of the murmur heard, and the thrill felt, over the apex area, are all too distinct, Dr. Dickinson says, for them to be caused by the contraction of such a weak-walled chamber

as the left auricle—even supplemented as it may be in its action by the contraction of the pulmonary vessels. But is the left auricle in cases of mitral stenosis, where the disease has not existed too long and where compensation still remains pretty perfect, the weak-walled chamber he tells us and one to be entirely left out of count in this matter. Records of cases shew (even those reported by Dr. Dickinson himself support my statement) that the wall of the left auricle is enormously developed—frequently being a quarter-of-an-inch in thickness instead of one-twelfth—as thick in fact as the wall of the right ventricle. Besides the right ventricle itself becomes thickened. Now are we to suppose that during life the thickened walls of the left auricle were never put upon the stretch; and that, in their contraction, aided by the pulmonary vessels and right ventricle, blood was not squeezed through the constricted mitral orifice with sufficient force to create a murmur. Physiology and anatomy alike tell us of an auricular systole. Were the left auricle simply a chamber in which blood accumulated, either for it to be drawn through the mitral orifice into the left ventricle by the suction influence which the ventricle exercises during diastole, or were the blood to be pushed through the mitral orifice by the contraction of the pulmonary vessels and right side of the heart, then the walls of the auricle might just as well have been made of elastic tissue, for this would have served these purposes. But elastic tissue cannot initiate movement; it can only repeat movement which has been generated without or beyond it. I find, however, the walls of the auricle made of muscle: they are, therefore, made to contract; and that, in my opinion, in no purely passive sense; for like all muscles forced to contract under opposition, we find that those of the left auricle undergo thickening when obstruction exists at the mitral orifice. I know that in many cases of mitral stenosis the walls of the left auricle will be found extremely attenuated, so much so that in their contraction no sound would be heard; but this will apply to any chamber of the heart in the advanced stages of cardiac disease, and it explains the disappearance of murmurs. Two functions belong to the mitral valve—an active function and a passive one: passively they are floated up by the blood passing into the left ventricle during diastole, and actively they are finely and closely applied to each other during the systole of the ventricle. Given, then, a hypertrophied auricle, sending thus, with increased force, blood through a constricted orifice—the blood whirling and eddying round inside the left ventricle—throwing chordæ tendineæ into vibration, and impinging upon the hypertrophied musculi papillares—present in these cases—and you have an explanation, not only of the long rough murmurs and the thrill, but of the occurrence of all of these before the systole of the ventricle begins. A point in favour of the auricular systolic or presystolic

rhythm of the murmur of mitral stenosis is the fact that if the auricular tension is increased, as by forced expiration, the murmur becomes much louder. Personally I have no difficulty in believing a murmur to be presystolic, and due to the current of blood which is passing forwards from the left auricle meeting with obstruction: and yet I cannot but admit that there are cases where the mitral segments are more or less thickened and glued together, and where no actual obstruction to the flow of blood from the left auricle is present; but still, where closure of the valve is delayed—where slight regurgitation, therefore, does exist—the murmur, too, being in slight precedence of the pulse. In such I have diagnosed rigid mitral curtains without much, if any, obstruction; and it is in drawing the attention of the medical profession to the existence of such, and reviving afresh our interest in mitral stenosis, that Dr. Dickinson has rendered such excellent and signal service.

Dr. Finlay: It seems to me that a considerable part of the question is to be set at rest by an appeal to facts. On examining a case—a typical case—you feel the thrill coming before the first sound. On auscultation you hear the long, rough murmur, which ceases as the systole of the ventricle is felt with a finger on the carotid. If you have thus a murmur finishing with the beginning of the ventricular systole, the murmur can hardly be due to the ventricular systole, but must be pre-systolic. The point of the greatest intensity of the murmur, again, is a matter of importance. In the case under discussion, the sound is certainly best heard in front, and is indistinct over the scapula behind, a fact which in itself is conclusive, if we believe that the sound must travel in the direction in which the blood is being driven. There are cases, of course, of which I have seen many at the Chest Hospital in City Road, where you have both an auricular systolic and a ventricular systolic murmur. This gives rise to a murmur beginning in the pause between the two sounds, obliterating the first sound and ceasing with the second; and if we are to exclude the auricular systole as a factor in the causation of mitral murmurs, I do not see how this class of cases are to be accounted for.

Dr. Dickinson: Though apparently conquered in the battle, I am not yet counted with the slain; and though I begin more and more to feel myself in a minority of one on this great question, I shall still continue to fight until I am finally convinced that I am wrong. The case which Dr. Drummond has shewn us is a very typical case; but he will pardon me if I call it a typical case of mitral regurgitation, and not what he describes it—a case of mitral stenosis. I have not committed myself to the opinion I hold on this matter without careful consideration. I push my fingers deeply between the inter-costal muscles, and I feel the contracting impulse of the ventricular wall before it reaches the surface, and

I hear this murmur beginning with the first appearance of the ventricular impulse. I have tried to put myself in the wrong—have tried, indeed, to be my own opponent—and I have totally failed to convince myself that the murmur is or can be due to anything but the impulse. And what is that impulse? Well, I maintain that it is the impulse of the left ventricle. Dr. Drummond says that this impulse is the impulse of the right ventricle; but, again, I must be allowed to differ from him. I do not believe it is. I have examined these cases frequently *post-mortem*, and I have always found the left ventricle occupying the position where during life I had felt the impulse. The impulse of the right ventricle no doubt can be felt, but it is to the right of the spot I select in making my observations. In regard to Dr. Finlay's contention, I would point out that the carotid pulse appears just about the end of the snap which closes the ventricular systole; and that, to my mind, strengthens my position that the murmur is due to the ventricular, and not the auricular systole. Dr. Drummond says that in these cases murmurs frequently run into each other. Most certainly they do. He further asks where is the time, if my theory be the true one, for the blood to get out of the auricle into the ventricle. Well, I say, there is plenty of time for that after the second sound and before the murmur begins. The interval between the second sound and the murmur is quite long enough for the auricle to empty itself. It is also long enough for the auricle to make a considerable noise, and it is in that interval that you find the typical soft blowing murmur which is to my mind the true auricular systolic murmur. Dr. Limont, if he will pardon me for referring here to it, has a case in the wards upstairs, which shows this condition very well indeed. Dr. Oliver very truly says that in these cases the left auricle is very often thick and hypertrophied. That is true, but it is also equally true that in many of them the auricle is very thin. I have often been struck in the *post-mortem* room by the thin rotten brown papery appearance of the left auricle; but I doubt very much if the left auricle has anything to do with the carrying on of the circulation at all. I believe that the systemic circulation is mainly carried on by the left ventricle in its systole and diastole. Why, in some of these cases, is it that you do not hear the murmur distinctly over the scapula? Dr. Finlay says that the murmur is heard best in the direction in which the blood is being driven. Very well, but all cases are not alike. In some of these cases you have a mitral orifice into which you can insert several fingers and there you have a great volume of blood being driven back into the auricle and producing a murmur easily heard at the back. In others, however, you have a stenotic orifice through which only a mere "spitter" of blood is driven back, and in that latter case you do not hear the murmur at the back at all.

REPORT OF A CASE OF SPASMODIC TORTICOLLIS FOLLOWING INJURY TO THE CERVICAL SPINE, SUCCESSFULLY TREATED BY STRETCHING THE SPINAL ACCESSORY NERVE.

By FREDERICK PAGE, Honorary Surgeon to the Royal Infirmary, Newcastle-upon-Tyne; Examiner in Clinical Surgery, University of Edinburgh; and Joint Lecturer on Clinical Surgery, University of Durham.

In the year 1866, the late Mr. Campbell de Morgan published, in the "British and Foreign Chirurgical Review," an exceedingly interesting case of spasmodic wry neck, following injury to the cervical spine, treated by excision of a quarter of an inch of the spinal accessory nerve. The spasms were cured, but the sterno-mastoid and trapezius remained permanently paralysed. The operation has been repeated by Professor Annandale, and, I dare say, by other surgeons. In 1880, a carefully-prepared paper, by Messrs. Sturge and Godlee, was read before the Clinical Society, entitled, "Stretching of the Facial Nerve for the Relief of Spasm of the Facial Muscles." On April 26th of this year, D. L., aged 24 years, a strong, muscular labourer, was admitted into the Royal Infirmary, under my care, with the following history:—While engaged last December in a rough game of football, he was thrown, and fell heavily upon his back, twisting his neck violently to one side. He was unable to rise, and had to be carried home, having lost the use of his limbs. He was not unconscious. His head was twisted to the right side. During the night he regained the power of using his legs. In two days the wry neck passed off, but his arms remained paralysed for a fortnight For some days the bladder required to be relieved with a catheter. In the course of a few weeks he recovered sufficiently to be able to resume duty. While at work, about March 19th, patient struck his head violently against an iron pipe. He fell backwards to the ground, and on rising found that his neck was twisted as it had been for two days after his former accident. On admission, patient was in the following condition:—When at rest the right shoulder was elevated, and the face turned to the right side. The deformity was evidently due to tonic contraction of the right sterno-mastoid and trapezius muscle. Any attempt made to straighten his head, a touch or movement, produced clonic spasms of the muscles named, by which the right side of the face and shoulder were almost brought in contact, his chin being at the same time drawn slightly towards the left side. Considerable pain accompanied the spasms. Rest in bed, counter irritation, and drugs produced no effect upon the deformity. Adopting the conclusion arrived at by Messrs. Sturge and Godlee "as to the class of cases in which

the operation of nerve-stretching is likely to prove efficacious," viz., those where "the spasm is confined to the muscles supplied by one nerve only," this seemed a typical case for treatment by nerve-stretching. Accordingly, on June 21st, six months after the first and three months after the second accident, I cut down upon the right spinal accessory nerve, where it emerges from the sterno-mastoid on its path to the trapezius muscle, passed my finger beneath, and stretched it with considerable force. Not feeling sure that it might not be necessary, ultimately, to resort to Mr. Morgan's expedient, I adopted a plan suggested to me by my friend, Professor Annandale, and surrounded the nerve with a silk thread, so that, should section be found requisite, I could reach the nerve easily without opening up the wound. The next day, though the tonic contraction was unaffected, patient expressed himself as feeling much more comfortable—freer from clonic spasm and from pain. The wound healed readily, and fourteen days after operation the silk thread was withdrawn. On July 21st patient was discharged, all clonic spasm having ceased entirely for some time. There was still, however, some tonic contraction of the sterno-mastoid, but it was decidedly less, and gradually decreasing. To-day the patient is, as you see (patient shown), free from deformity, in good health, and able to do his ordinary duty without inconvenience. I am additionally pleased to be able to show the patient this evening, because we have among us a distinguished Metropolitan surgeon, Mr. Croft, of St. Thomas's Hospital, under whose notice I had an opportunity of bringing the case last June, before operation, and to whom, I believe, the result of the treatment adopted will be a matter of some interest.

Mr. Croft: You must allow me, sir, to congratulate Mr. Page on the very brilliant result of this operation. It is certainly the best I have ever seen in the treatment of torticollis. I well remember seeing the man here in June last, and recall distinctly the abject and miserable appearance he then presented. The excellence of the result, I have no doubt, is due to the cause of the deformity being traumatic—(that is, in having injury as the cause of the nerve lesion), and not to a process of degeneration at its root.

ADENOID VEGETATIONS OF THE VAULT OF THE PHARYNX.

By JAMES LIMONT, M.A., M.B. CM., B.Sc., M.R.C.P., &c.; Physician to the Royal Infirmary, Newcastle-on-Tyne.

Adenoid vegetations of the vault of the pharynx are not at all uncommon in children, occurring, according to different observers, in from one to five per cent. of school children. The growths are easily recognized, their treatment is not difficult, and almost always produce marked relief and protection against permanent injury, and yet the disease appears very often to remain unrelieved, because undiscovered, and undiscovered because unlooked for.

I showed the patient, M.A., at last meeting, and read to-night these notes on adenoid vegetations, in the hope that some member may, perhaps, have suggested to him the true cause and the best mode of relief of some hitherto intractable throat case.

Woakes, at the International Congress of 1881, contended that the growths are papillomata, modified by being crowded together and bathed in secretion. Butlin, however, affirms that they are outgrowths of the adenoid tissue of the mucous membrane. I have cut sections of the vegetations removed by Mr. Page from the patient shown at last meeting. One of them is placed under the microscope on the table, and you will have no difficulty in seeing that Butlin's description is correct. The section shows adenoid or lymphoid tissue covered by columnar ephithelium.

The causes that are given by various writers as leading to the production of these vegetations are, family predisposition, early life, scrofulous constitution, measles, scarlet fever, cold and damp climate. It is questionable if they are ever congenital; but they have been found in infants only a few months old. Probably the real cause of the growths is chronic catarrh, however excited, of the mucous membrane of the naso-pharynne.

A patient with these vegetations is generally brought on account of deafness. The first thing noted is the facial expression—this, once seen, will be readily recognised again. The mouth is kept more or less open, and the expression is markedly dull and stupid. Very frequently there is a muco-purulent discharge from the nostrils. In many cases the nose is flattened from side to side. The child—for the patient is almost invariably a child—speaks in a peculiar manner, from the want of the upper pharynx as a resonating chamber, and from the difficulty of pronouncing the nasals m, n, and g. The patient, M. A., for instance, pronounces "common" "cobbed," "nose" "dose," and "song" "sod." Dickens, according to Dalby, accurately noted the peculiarities of speech long before they were described by any medical writer. He seems,

however, to have regarded them as peculiarities due to race. In "Oliver Twist," Barny, one of Fagan's gang, is made to say—

"Stradegers id the next roob" . . . . . .
"Ah ad rub'uds from the cuttry, but subthig in your way, or I'be bistaked."

Such cases are generally more or less deaf, eating is noisy, sleep is disturbed by the difficulty of respiration, and in the morning blood is sometimes found in the mouth.

The tonsils are enlarged; the soft palate is displaced forwards, thickened, and less moveable than it naturally is. The posterior wall of the pharynx is covered with muco pus, and, on removing this, projections are probably seen on the surface; they are round or dome-shaped, soft or hard, and nearly of the same colour as the surrounding mucous membrane.

On passing the finger above the soft palate the characteristic projections are felt. They may occupy the roof, sides, or posterior wall of the space. They may be soft or firm, and generally bleed very readily on being touched.

Such is the usual condition in these cases; but, as a result of the presence of the growths, other changes arise. There may be, as there was in the case shewn at last meeting, marked swelling of the mucous membrane over the turbinated bones, increasing the difficulty of breathing through the nostrils, and giving rise also to much discomfort by preventing the patient from cleansing the nostrils by "blowing the nose." The appearance presented by the swollen mucous membrane is very like that of a polypus, and has often led to abortive attempts at removal by forceps.

The presence of the vegetations keeps the neighbouring parts in a state of irritation and congestion; as a result of this, and perhaps aided by the mouth breathing, the tonsils are liable to frequent attacks of inflammation. This patient shown was said by her mother to have had many such attacks, and was indeed suffering from acute tonsillitis when admitted.

The pharynx, irritated by the presence of the bodies, the discharge from them, and the breathing through the mouth, is generally found to be in a state of granular inflammation. According to Snellen there is frequently coincident a catarrh of the conjunctiva, produced (according to him) either reflexly or by direct connection of the lymphatic systems.

Butlin states that the discharge runs down and causes laryngitis, and also loss of appetite.

As regards the influence of the vegetations on other diseases, most writers seem to agree that their presence renders worse the prognosis in scarlet fever, measles, and diphtheria. Ear affections following scarlet fever are said to be frequent where vegetations are present.

According to Woakes, the air passing through the mouth, instead

of through the nostrils, is drier, colder, and less free from impurities; and, therefore, the patients are apt to suffer from inflammatory lung affections.

But by far the most serious results follow from the effects produced by the growths on the auditory apparatus. Woakes reckons that not more than five per cent. of the cases escape deafness—temporary or permanent.

Butlin's explanation is that the deafness at first is probably due to temporary obstruction of the Eustachian tubes by swelling of the vegetations during the occurrence of catarrh; but that later on catarrh of the middle ear is produced either by extension of the inflammation from the naso-pharynx along the tubes or secondary to the long continued obstruction at their orifice. Finally in some cases suppuration followed by perforation of the membrane tympani occurs.

One may find an adult deaf, and the deafness may have been caused by adenoid vegetations, and yet no traces of them are to be found; and this brings one to speak of the ultimate fate of such growths. They *may* be found in adults, but in by far the greater number of cases they have disappeared by the time full adult life is reached.

Woakes attributes their disappearance to the increased pharyngial space in the adult, which he says "implies freer access of air, readier escape of secretion, and consequently greater dryness of the surroundings generally. The soil thus drained and ventilated appears unfitted for the vegetations to flourish upon, and they accordingly disappear."

Butlin, on the other hand, says "they disappear by contraction following inflammatory products and by suppuration."

By whatever means they disappear, all are agreed that to wait till they do so, involves much discomfort and great danger of permanent injury. The Transactions of this Society, however, up to this time do not contain any records of such cases. I trust that in future there may be evidence that this disease is receiving the attention which it deserves.

A CASE OF TRAUMATIC TETANUS, WITH REMARKS UPON THE ETIOLOGY OF THE DISEASE.

By ALFRED MANTLE, M.D., Fellow of the Medical and Royal Microscopical Societies, London.

On the 21st of October, I was called to see R—— G——, æt. 64, a colliery messenger, who was suffering with a painful and swollen left foot.

Past History.—Forty years ago he "wrenched" his foot, and was disabled for two years. During this time some fragments of bone came away after an incision had been made by the surgeon in attendance, but, beyond this incision, no other operation was performed. Three times since, at intervals of about ten years, he had been prevented from working for the space of three or four months, owing to the foot being much inflamed and painful. On none of these occasions, however, had the skin been broken or bone discharged.

Present Illness.—For a week before he ceased working he complained of his foot swelling, but there was no redness, and very little pain. When I first visited him, which was the sixth day of his illness, he was lying in bed, and to all appearances was the subject of considerable constitutional disturbance. The tongue was covered with a thick brown fur, the temperature 104 deg., and pulse much quickened. He perspired very freely, and had had shiverings. Examining the foot, I found the dorsum very œdematous and inflamed, whilst the plantar surface was only slightly affected. An old scar was visible over the proximal end of the fifth metatarsal bone, which was accounted for by the illness forty years ago already described.

My opinion was that there was deep-seated pus; and on my next visit, a minute examination showed a dusky spot over the distal end of the outer metatarsal bone; but I was absolutely refused permission to make an incision. The following day the skin gave way, and a small quantity of pus escaped, with great relief to the constitutional symptoms, whilst the swelling and redness diminished considerably. Probing the wound shewed the bone to be bare. Two days afterwards I received an urgent message to visit the patient, the messenger stating that he had difficulty in swallowing. I found such to be case; and was immediately struck with the condition of opisthotonos already developed, whilst risus sardonicus was also manifest. Disturbing him, even to feel his pulse, caused spasm; and it was evident the disease was severe and rapid in its development.

An examination of the wound revealed nothing, other than that it had an unhealthy appearance. The pus was found to have a

free exit, and was by no means fœtid. All operative interference was most obstinately rejected. Large doses of chloral were given frequently, and absolute quietude enforced, while as much nutrition as possible was administered. My next visit found his condition much the same—the body covered with perspiration—but more difficulty in swallowing.

The breathing became much embarrassed the following day, and it was then evident death was imminent. This took place three days after the first noticeable symptom. I was not allowed to make an autopsy, but was permitted to make an incision into the foot, when I found the distal half of the fifth metatarsal bone denuded of periosteum, and considerable superficial disintegration of bone taking place.

The interesting points of this case are: (1) The occurrence of tetanus in connection with an acute inflammatory process in a small bone; for I believe this to be by no means common. (2) The presence of symptoms of blood-poisoning before the development of tetanus, accounted for by the subperiosteal abscess. (3) The rapidity with which the disease developed and terminated.

It is very evident that tetanus is either a disease of neurotic origin, or one dependent upon some blood poison.

At our last meeting Mr. Page clearly regarded the disease as a nervous one, and the Society is indebted to him for a very interesting and suggestive paper. In the subsequent discussion, Drs. Heath and Philipson, also Mr. Clement Stephenson, supported this view, whilst Dr. Limont unhesitatingly advocated a bacterial causation of tetanus. Though not convinced, I am inclined to regard the disease as produced by blood poison; and, for the sake of discussion, I shall chiefly confine my remarks to this side of the question, inasmuch as Mr. Page's paper covered for the most part the opposite ground.

Many cases of traumatic tetanus, and particularly those unassociated with a suppurating wound, undoubtedly suggest a nervous origin, whilst idiopathic and traumatic cases with a suppurating wound point more directly to a blood poison. In traumatic cases it is easy to understand how inflammation may travel from crushed and torn nerve terminations along the fibres to their respective places of origin; and that the white and grey matter of the cord may become affected has been shewn by able observers. Brown Sequard showed too that irritation of an efferent nerve, if strong enough, will produce lesions in the spinal cord. In the case of traumatic tetanus, however, the question is, what causes the irritation and subsequent neuritis?—for we know that the nerves need not be lacerated, tetanus arising in clean cut as well as lacerated wounds.

That lacerated and, therefore, suppurating wounds are more often associated with tetanus there can be no doubt, and I cannot

agree with some who say the disease is as likely to develop with a healthy as an unhealthy wound, for I am strongly of opinion that antiseptic surgery has reduced the number of cases of traumatic tetanus. Therefore, I think we may assume the changes in the nerve tissues may be sometimes primarily caused by some factor in the suppurative process. Mr. Page has asked what condition of body predisposes to the development of the disease? That it is just as important to know this, as well as the exciting cause obtains not only in this disease but in all others, but we too often overlook the fact. As medical men, we know that a certain condition of body is necessary for the development of anyone of the zymotic fevers. We must have a suitable soil for the development of the poison, and were this not so, none of us would be safe in attending as we do all sorts of infectious diseases. In regard to idiopathic cases, Mr. Page says he has "no doubt exposure to cold and wet is the exciting cause of the disease," but pertinently remarks "thousands are similarly exposed who don't get tetanus."

Exposure to cold as a cause of disease is difficult to explain, for we know so little what this means and how the changes are brought about. Besides, so many other diseases are said to be thus caused.

Some interesting experiments, brought before the meeting of the International Medical Congress by Dr. Shakespear, have been referred to, which are evidently an imitation of Pasteur's with regard to hydrophobia. Now, this experimenter expresses his belief in the disease being of bacterial origin, and, knowing the spinal cord to be the chief seat of the disease, he expects to find a poison, which we may call a ptomaine in this structure. He therefore macerates the cord, and a solution of the poison extracted is injected into animals, with the production of tetanic symptoms in some cases. These experiments are not completed, but so far are important. Another observer, Brieger, has been investigating the nature of the ptomaines in tetanus. He is said to have found bacilli, from the cultivations of which two substances, tetanin and tetano-toxine, have been obtained, which, injected into mice, are said to produce tetanus. What other evidence have we that such organisms exist in tetanus? Two well-known men, Rose and Billroth, admit the contagion of tetanus, but all their attempts to inoculate the disease failed. Neither of these observers, however, isolated any micro-organism. Professor Rossenbach having produced tetanus in rabbits and mice, after inoculating them with gangrenous matter obtained from a tetanic patient, in searching for the micro-organisms of the disease, found amongst others a bristle-shaped bacillus, which he considers the organism which produces the disease. Watson Cheyne in this country made a number of experiments with cultivations obtained from Rossenbach. and his experiments were equally successful. He impregnated

sterilised cotton threads with these bacteria, and inserted the threads in the sub-cutaneous tissue, and was able to make an approximate estimate of the number of bacilli necessary to produce the disease. Woodhead and Hare, of Edinburgh, also found bacteria in the blood of a tetanic patient, but the result of their experiments, though not negative, were less successful in producing the disease. Sir James Paget recently, whilst advocating a bacterial cause of cancer, in the Morton lecture, expressed himself as satisfied that tetanus had such an origin. He said, "Tetanus is due to a well-ascertained bacillus, and in the blood this, or some material produced by it, is carried to every part; but it seems harmless to all till (after it may be some considerable time) it affects some portion of the spinal marrow.

Recently, again, it has been shewn after examination of the earth which has been known to contaminate the wounds in two cases of tetanus, that the same characteristic bacillus was present, and experiments with the earth produced the disease. This may to some extent explain why certain countries and damp localities favour its development. Some very important statistics by Dr. Wallace, published in the *Lancet*, in 1882, shew that in the Medical College Hospital, Calcutta, there were 303 cases of tetanus in the 10 years, 1869 to 1879; 280 of these cases were admitted, with the disease developed, whilst 23 developed the disease after operation. Of the 280 admitted cases, 159 were idiopathic, whilst 121 were traumatic. In idiopathic cases where a history could be obtained, 47 were said to be due to exposure to cold and wet; 29 to menstruation, pregnancy, and abortion; 23 in infants under 14 days old; 24 in persons suffering from fever, dysentery, general debility, and privation without exposure. Now it seems very patent that there must be something in Bengal from which we are comparatively free in Great Britain, which is either from without, or may be atmospheric, or from within and referable to the nervous system. If due to the nervous system, are other nervous diseases increased in this country in the same ratio?

From the fact that 30 cases of tetanus were received into a small hospital in one year, we may infer that there must be a large number of cases in the country which never reached the hospital, and were never heard of.

More than half the 303 cases admitted were idiopathic in nature, with no cut or lacerated nerve fibres. How are we then to explain their origin? I bring these facts before you, asking you not to take a one-sided view of the pathology. The symptoms being referable to the nervous system is by no means conclusive of the cause being of nervous origin. There are difficulties, I know, not easy of explanation, with the germ theory: *e. g.*, the development of tetanus after a simple fracture or contusion; but let us remember that isolated cases of fever sometimes present as

great difficulties in trying to explain their origin. I have no doubt, however, that with the advancement of scientific medicine, less difficulty will be found in isolating, cultivating, and inoculating bacteria; and that the etiology of tetanus, regarded as a bacterial disease, will be soon settled for or against. Meanwhile, let us all lend a helping hand to try and unravel the cause of this sad but interesting disease.

THE THERMO-CAUTERY IN THE TREATMENT OF DISEASES OF THE THROAT AND NOSE.

By WM. ROBERTSON, M.D., Surgeon to the Throat and Ear Horpital, Newcastle-on-Tyne.

The increasing attention now being paid to oral and pharyngeal diseases, and particularly to diseases of the nose, furnishes a reason for my desire to bring before you recent experiences in their treatment, more especially by the galvamo-caustic method. My remarks, therefore, will be confined to diseases of these neighbourhoods to which more particularly this treatment has been found applicable, viz., to lesions of the adenoid tissue of the pharynx, and hypertrophy of the soft parts covering the turbinated bones of the nose.

To take them up in this order, allow me briefly to allude to the first, viz., chronic hypertrophy of the adenoid tissue of the pharynx. In the normal state the pharynx mucosa is infiltrated with diffuse adenoid tissue and lymph follicles similar to the closed follicles in the intestines, and the trachoma glands of the conjunctival sac. This tissue in the pharynx is found widely distributed in a circular fashion, beginning above at the vault in the pharyngeal tonsil, extensively in the part between the Eustachean tubes, from which it extends down in the tissue behind the posterior pillars of the fauces, then to the tonsils, from whence it reaches on to the dorsum of the tongue.

This tissue is subject to the disease we refer to in all its different situations; and for each locality, as the hypertrophy is more pronounced, a separate name has been adopted. It is better, I think, however, to look upon the disease as a whole, seeing that the etiology would seem to be of a uniform nature throughout. The same proneness to inflammatory reaction from certain irritants characterises the adenoid tissue here as it does in other parts, where we find it as ex. gr., in Peyer's patches and in the conjunctival sac. There is the same circumscribed proliferation of lymphatic tissue in the neighbourhood of the ducts of mucous glands, rarely, however, proceeding to ulceration in the case in question.

The pavement epithelium still covers the nodules, it may be very scantily. Hypertrophy ensues, and inflammatory products are absorbed; the lymph vessels surrounding the nodules are implicated; and the neighbouring glands ex. gr., those at the angles of the jaws and under the tongue, are enlarged. With those lesions before us one is forcibly reminded of the lesions of the intestines in typhoid fever, where, of course, the process at work is of a much more intense nature; but, even here, in characteristic cases of typhoid,

throat symptoms are commonly enough met with, arising from implication of this tissue which, however, does not proceed to ulceration on account of local conditions. Deafness in typhoid has probably a similar explanation, viz., hypertrophy of the adenoid tissue round the Eustachian tubes. The analogy here suggested, if correct—and I can see nothing far-fetched or faulty in it—goes a far way in clearing up the etiology of the affection in question, which I venture to say is a very prevalent one in our immediate locality amongst young and old, as often in one case as in the other. It but remains for me to add that on careful inquiry in many cases of granular pharyngitis, unsanitary conditions have always been clearly demonstrable. Apart from the appearances in the throat, the langour, debility, headache, and slight pyrexia often noticed in this disease favours the idea that sewer gas or other unsanitary conditions are at work. Too much of the etiology of such cases has been put down to prolonged speaking, highly-seasoned dishes, or smoking, and I believe it is quite as great a mistake to attribute anything at all of causation to any particular constitutional state. Of this I am certain, for I have observed it as frequently in those without a vice in their constitution as in others where suspicion might rest.

So far as I have observed, it will be found affecting inhabitants of neighbourhoods where the milder forms of insanitation exist, and where we so often meet with slight febricular attacks lasting for a few days, and where typhoid it may be is seldom met with. Its great frequency in the young is, I take it, strong corroborative evidence that mild sanitary derangements are at the root of the etiology; because, as is well-known, children are always more sensitive to these conditions. Where such errors are not in force, as amongst ex. gr. certain tribes of Kafirs (inhabiting desert parts of South Africa) whom I have met with and examined, such affections are rarely if at all met with.

Another instructive analogy in this connection is the almost similar reaction observed in the adenoid tissue of the conjunctiva to precisely identical irritants. Here diathesis is out of the question etiologically, and few will be found to deny the causation implied, and it no doubt occurs here as in the conjunctiva that the process light up in one follicle spreads infectively to others as in the case of granular conjunctivitis. In each case the parts most at rest become most perniciously affected, in the case of the pharynx, the vault, in the conjunctiva—the sulcus. This general chronic inflammation of the lymphoid structures present in the several regions of the pharynx gives rise to varied symptoms. Strange to state, however, one is often surprised to find very little complaint made by a few patients where all the objective characters of the disease are even pronounced. As a rule symptoms are badly located in the pharynx, and this may account for the infrequency of com-

plaint. Generally speaking it is advisable, therefore, in cases presenting obscure symptoms of disease of the upper air passages to examine carefully for this condition. If, as I have suggested, the process is of an infective nature, it would be expected that when one region of the pharynx is infected indications of its presence would be found in other parts, and so I have found it frequently to be the case. To take the vault first, where the so-called adenoid vegetations are found, it is generally the case that several granules are noticeable on the oral region of the pharynx, or the folds behind the posterior pillars of the pharynx are involved. This observation would indicate the direction of further search. The dorsum of the tongue in the neighbourhood of the epiglottis would also be examined. I need not dwell upon the symptoms arising from adenoid vegetations in the naso-pharynx beyond observing that they are frequently associated with hypertrophy of the soft parts over the turbinated bones. Adenoid vegetations here are dealt with in a different way from that I have to describe, yet two cases amongst others I have met with of the affection may not be amiss in order to shew the train of symptoms that arise. These cases were two brothers. The first, Robert M., æt. 15, shewed characteristic symptoms of adenoid growths, with marked hypertrophy of tissues over turbinated bones. There was swelling of the tissues of nasal part of face, continual open mouth, suffused eyes, and obstructed nasal respiration. Sneezing, stupid expression, dull voice were present, and a firey redness round opening of nares. He also suffered from pronounced so-called asthmatic symptoms, for which he had been treated for long. The temperature was raised. He was, besides slightly deaf, pale and unhealthy looking. Auscultation betrayed prolonged expiratory sound but few rales. There was cough, with slight expectoration; percussion normal. The finger introduced into vault of pharynx sunk into extensive adenoid growths which bled freely, and caused considerable reaction after only slight manipulation. Moderate galvano-cauterisation of turbinated m.m., together with douches to naso-pharynx, greatly ameliorated but did not cure the case.

The boy's brother, S. M., was under treatment about a year ago for the following symptoms: slight bronchitic symptoms, with pyrexia, languor, and loss of appetite. For these he was sent to Croft, and returned strong and well. Two months ago he again came under treatment. During the interval he had more or less cough with expectoration, but was otherwise strong and had grown well. During the second attack he had the same barking cough, bronchitic rales mostly over right lung posteriorly, with slightly prolonged expiration there. Percussion normal; temperature from 100° to 101°; lassitude, pallor, and loss of appetite; pulse 84. A thorough examination of pharynx was instituted, and in the vault

the mucous membrane was found overgrown by a thick layer of soft sprouting tissue, bleeding freely to the touch. The turbinated bones were slightly congested, with crusts adhering. Treatment directed to pharynx and nares immediately improved matters, and cleared up a case that might have been otherwise misleading. In this family it may be interesting to note in connection with what has gone before, that three of the family were about this time treated for suspicious forms of sore throat, with diphtheritic-looking patches on the tonsils. The house was in a street well known to be imperfectly drained, the house itself not being disconnected from the main drain, and one or two cracked gullies were seen.

Chronic inflammation of the adenoid tissue in the oropharynx, which I wish particularly to describe, is a very frequent affection, giving rise to distinct and characteristic symptoms both objective and subjective—the latter, however, being often indefinite, as before mentioned. On examining the throat in such cases one or two lesions are at once observed. The most distressing symptoms are observed associated with implication of the fold of the tissue that runs down behind the posterior palar of the fauces. On retching this fold is brought prominently forward, and an idea can then be formed of the degree of implication. Most frequently, however, it is noticed considerably enlarged and prominent, as thick often as an ordinary pencil, and of a yellowish red angry colour. It may be about from $\frac{3}{4}$ to 1 inch long with these characteristics. It is found occasionally much longer, more raised, and with an overhanging margin, and on retching the two folds meet in the middle line. By touching these tender-looking parts the symptoms are at once elicited in the patient, viz., cough, retching, and feeling of foreign body.

Often associated with those hypertrophied lateral bands, but sometimes separately, there are to be noticed raised salmon-coloured patches, of different sizes and shapes, situated in the posterior aspect of the oropharynx throughout its extent. These patches are often in the form of raised nodules, $\frac{1}{4}$ inch in diameter, and again as oblong plaques, $\frac{3}{4}$ inch long by $\frac{1}{4}$ broad. They are not nearly so sensitive as the lateral bands already mentioned, and are set in seemingly healthy m.m. A varicose condition of the m.m. is sometimes present. More or less implication of the adenoid tissue in other parts is generally discoverable, and a congested state of the neighbourhood of the larynx is noticeable —one or two glands at the angles of the jaws often found enlarged.

Situated, as this lesion is, on a part of the m.m., where it is so profusely supplied with nervous structures, it is not to be supposed that these escape irritation. This affection of the oropharynx is found present at all ages, and in both sexes; more especially, I think, in youth, and is confined to no class.

Situated so near the larynx, this organ is most affected reflexly. Cough is a prominent symptom. Fatigue in speaking is another well-marked complaint. Feeling of foreign body in throat, and consequently frequent desire to swallow are present. In children a hard barking cough at night, with little expectoration and no lung symptoms, or, at the most, a slightly prolonged expiratory murmur, may safely suggest the presence of this affection. I have often noticed the same in adults. Want of nervous energy, despondency, and a haggard appearance are frequently found associated with these throat symptoms. I cannot do better than read two notes I had from a patient in whom this condition was well marked; the one letter was written before treatment, and gives his symptoms as he felt them, the other refers to observations made after treatment.

During acute paroxysms, the pharynx becomes more generally congested, and œdematous-looking, but yet the characteristic points of the affection can be made out. All the symptoms are aggravated, more especially the laryngeal and pulmonary reflexes. Cough is most distressing, and paroxysmal in character, while auscultation shews that it is not connected with the lungs primarily. The general impairment of muscular action in the various parts at the sides of the throat, and in the neighbourhood of larynx, lead to fatigue in speaking and intonation. Thus we have gradual failure of voice and utter powerlessness for sustained effort in this direction.

The general discomfort constantly felt in the throat after a time in some patients leads to impaired vigour and nutrition symptoms, which at once disappear on suitable treatment.

In some few instances, cases are met with where granular pharyngitis gives rise to few symptoms, and the condition is discovered where the patient comes under treatment for other conditions, *e.g.*, deafness, due to the presence of chronic inflammation in the adenoid tissue round Eustachiam tube openings, if not of that in the tubes themselves, for adenoid tissue is found there, and has been discovered inflammed as in the other situations mentioned.

As to the particular affection of the nervous structures supplying the parts thus affected, Woakes states that it consists in a congested state of the venous return of the nerve fibres. It is unnecessary to go into detail of all the reflexes produced according to Hack by granular pharyngitis. I have already touched upon the principal, viz., the pulmonary and laryngeal. Nor have we to search far for analogy in other parts. To take the eye effected with granular conjunctivitis, which condition so much resembles granular pharyngitis, we find reflex hyperaesthesia in the cilliary nerves, and through these of the optic, arising through the irritation caused by the granulations on the branch of the trifacial

there destributed. In the case of the throat, the fifth is also irritated, its superior maxillary branch with Meckels ganglion having a wide distribution here. The irritation transmitted by means of sphenopalatine ganglion to the vasomotor nerves causes well-marked symptoms. Giddiness and somnolence are often associated with implication of the parts I refer to.

I must now, however, revert to *treatment*; nor need I trouble you with routine practices and its results in the management of these cases. You are no doubt well aware of their fruitlessness. To treat such cases as I refer to well, is to have recourse to the use of the galvano-caustic point.

As regards the tubercles on the posterior wall of the oropharynx, the cautery I have had shaped for them suits well. The cautery is applied cold to the granulation to be attacked; the current is let on for a second or two, and it is best taken off while hot, so that the superficial parts of the tubercle adhere. In this way it is opened up, and its destruction rendered more complete. Very little subsequent pain is complained of; and in about a week the tubercle is found to have completely disappeared. So slight is the reaction, that all tubercles found in a case in this situation may be disposed of at one sitting. A useful aid is the application of cocain, but it must be remembered that its application somewhat obscures the features of the disease—of course, only temporarily. So slight is the pain—so long as only diseased tissue is touched—that cocain is hardly called for. Thus, with clear daylight, and avoiding the obscuring effect of cocain, use the cautery freely on diseased tissue, and no unpleasant results will be met with, even in the case of nervous patients. Artificial light I have found not so good. After the use of the cautery, a good plan is to swab the parts over with cocain, and for fidgetty patients its subsequent continuous use for a day or two may be employed. Another useful adjuvant is a spray (I need not state that gargles are worthless) of carbolate of soda, and the use of ice.

As regards the lateral bands a much more cautious course has to be pursued, and I generally attack but a very small part of one band at a time—but in precisely the same way—applying the cautery cold, endeavouring to draw as much eschar as possible off the part, so as to thoroughly open up the diseased patch. The resulting cicatrisation strangles any remaining diseased tissue most effectually if cauterisation is well accomplished, and an extensive white flat patch of mucous membrane replaces the seat of the disease. A certain amount of smart reaction results from cauterisation of these later bands, moved so frequently by the contained muscular structures, but is readily controlled by the use of ice, the spray, and, if necessary, a sol. of cochin. In no case have I found it necessary to confine the patient to the house, and the major part of the discomfort in swallowing is over in two or

three days. The treatment of those lateral bands must thus necessarily extend over a few sittings, but I have not yet found any objection in those who have suffered in full from this annoying complaint.

The result in the great majority of cases is most encouraging—the cough, hitherto so distressing, completely disappears, the hawking is no more complained of, and the frequent swallowing and its result dyspepsia disappears. The general state of the patient is confirmatory of the benefit of the treatment. Previously anaemic and bilious looking, he regains a healthy colour, and even puts on flesh, while mentally the benefit is quite as marked.

An examination of the parts cauterised now shews that the pharynx is only healthily moist, and the mucous membrane presents white smooth patches where before it was the seat of disease. Gradually the colateral œdema of the surrounding parts, particularly around the opening of larynx, disappears, and with this improved intonation and power of voice.

HYPERTROPHY OF LINGUAL TONSIL.

By WM. ROBERTSON, M.D., Surgeon to the Throat and Ear Hospital, Newcastle-on-Tyne.

The following case is judged worthy of reporting, both from the rarity of the affection and on account of its well marked development. For the following notes we are indebted to Mr. P. R. Adkins, Clinical Assistant.

Mrs. G., æt. 32 (but looking 10 years older), married, appeared for treatment at the Hospital, October 14th, with the history of great distress in swallowing, readily produced difficulty in breathing, and inability long to sustain speech. The duration of these symptoms is now 2 years. The greatest caution has to be observed in swallowing, and she has not tasted beef for 6 months from fear of choking. Patient states that she has become much thinner during these 2 years, and has lost her colour and strength. She has been forced during the time stated to spend long periods over her meals. She complains besides of a feeling of foreign body in the throat, frequent swallowing, and pain shooting up to her left ear. Patient lives on a farm where the drinking water is not above suspicion, and is particularly disagreeable in summer.

A medium sized œsophapeal passed readily, and withdrawn slightly tinged with blood.

On examining the throat, extensive appearances of granular pharyngitis exist in the oropharynx, and a slighter similar state is found in the nose pharynx.

On depressing the tongue, large pale œdematous granulations are brought into view, and extending back over the dorsum. With the laryngoscope these are found continued back, gradually increasing in size, on each side of the middle line to the eyeglottis. In the neighbourhood of the eyeglottis they are found to rise to the level of its upper margin, and at the sides completely to overlap this organ, so that only a central part of it is visible. No interval is thus seen between eyeglottis and tongue. An effort to lift the eyeglottis out of its position effected no great separation, so close up to the eyeglottis had the adenoid growths seemingly grown. These (adenoid growths), as examined with laryngoscope, were seen to be thickly set, of a pale œdematous appearance, and shewed traces of blood caused by the previous passage of the boryio. Taken separately, each growth presented a billious extremity $\frac{3}{16}$ inch in diameter, with a narrowing base, and probably $\frac{6}{16}$ (some of them) in length. Those in front and towards

the sides of tongue were flatter and smaller, but of the same appearance.

As the patient came from a considerable distance, and the symptoms were urgent, the immediate use of the galvano-cautery was suggested and effected. With the aid of the mirror the cautery was carried down as near as possible to the eyeglottis (so as not to touch it), and the most offending granulations destroyed, cocain being previously used (which did not, however, ameliorate the condition one whit). Next day the patient expressed herself as easier, and stated that she had managed to swallow a piece of beef, a thing she had not done for six months previously. A subsequent examination shewed that the cautery had been used effectively.

The larynx was normal, and readily surveyed owing to the fixture of the eyeglottis by the mass of granulations.

Remarks. According to McBride, who has given an extensive account of this affection in the September number of the *Edinburgh Medical Journal*, it would seem that cases of hypertrophy of lingual tonsil have hitherto been very infrequently met with in British literature on the subject. The description here referred to leaves little for me to add. There are, however, one or two points in this case worthy of notice. The extreme difficulty in swallowing complained of led to the supposition that some obstruction existed in the œsophagus, which the passage of a boryio shewed was not the case. The report shews that dysphagia was *the* symptom that brought the patient for treatment, and had materially affected her health and strength through interfering with due nutrition. The frequent passage of small particles of food *the wrong way* had frequently caused choking, and had gradually induced a fear in the patient to sit down to a meal, which was always prolonged. The other symptoms, viz., fatigue in speaking, frequent swallowing, &c., were well marked. The association of chronic inflammation of the adenoid tissue of other parts of the pharynx, which probably existed before implication of the same tissue in tongue, is also suggestive, if we are to suppose that generally this process is an infective one, spreading from part to part after one locality in this region becomes affected.

In this connection it is to be observed that the drinking water used by the patient was probably polluted in some way. The unhealthy appearance of the patient also corresponded with that so frequently seen in conjunction with granular pharyngitis, which I believe arises frequently (if not always) under unsanitary conditions of one kind or another.

As regards the treatment I speak of the above case, when I say that I know of no remedy short of the galvano-cautery capable of meeting the necessities of the case. Its application is readily

effected with the use of the mirror, and its action is local and precise.

The pain, considerably assuaged by the previous use of cocain, is trifling and ends with the application, and little colateral œdema need be anticipated. The same cannot be said for chromic acid which will spread let it be ever so carefully used.

NORTHUMBERLAND AND DURHAM
MEDICAL SOCIETY.

SESSION 1887-88.

JANUARY MEETING, 1888.

The Fourth Monthly Meeting of the session was held in the Library of the Newcastle-on-Tyne Royal Infirmary, on Thursday evening, January 12th—Dr. Hume (President) in the chair.

NEW MEMBER.

Thos. Fred. May, L.F.P.S.G., Newcastle-on-Tyne, was unanimously elected a member of the Society.

CASE OF ORBITAL ANEURISM.

Mr. Rutherford Morison: A. C., æt. 7½ years, was sent to me by Dr. Munro, of Haverton Hill, with exopthalmos and a bruit to be heard over the greater part of the head.

The history of the boy's illness is that, a year last October, he was sitting on a wall 2½ feet high with a clasp knife open in his hand. He fell forwards, and on coming to the ground the knife entered his orbital cavity in the position of a scar about the centre of the lower eyelid. He walked into the house with the knife sticking out, the blade being entirely hidden, and the handle standing straight out from the face. His mother at once tried to pull it out, but, finding it fixed, left it till his father came in. The father pulled it out, and it required considerable force. As soon as the knife was withdrawn a gush of blood followed, and about a table-spoonful of blood escaped. The eye (which, before the knife was pulled out, seemed pushed in) at once started forwards when the knife was withdrawn. Dr. Munro was in attendance at once, but no further bleeding took place. The boy could see immediately after the accident, and his sight had not totally disappeared till two or three weeks ago. Two or three months after the accident, the protrusion of the eye having somewhat lessened, at Dr. Munro's suggestion, an opthalmoscopic examination was made, and the only thing found was some dilatation of the veins of the fundus. The subconjunctival vessels were at this time much more enlarged than

they now are. Six or seven weeks after the injury the exopthalmos was most marked. It diminished after this up to about three months after the accident, since when no further change has occurred. He was always able to close the lids fully. There has never been any visible pulsation, but since the third or fourth day there has been pulsation on pressure on the eyeball, and a loud bruit could be always heard from this time.

CASE OF PSORIASIS.

Dr. COLLINSON: This man presented himself at the Durham Infirmary this morning, and I venture to bring him before the Society as a well-marked case of psoriasis, but principally with a view to elicit some opinion as to the best methods of treatment. The disease was first observed by the patient three months ago, beginning in some spots about the elbows.

Dr. PHILIPSON: This is a very interesting case, in view of the fact that not only are the extremities covered with the eruption, but it also involves nearly the whole of the trunk. In my experience the disease has always its origin on the elbows. In the absence of a specific history one would be at a loss to account for this man's condition, though he blames the changes of water in moving about from place to place. In regard to treatment I should venture to suggest arsenic, beginning in five minim doses, as the most likely to be of benefit, with the addition of ten minims of tincture of iron should there be anæmia.

Dr. NEWCOMBE: I have found benefit in these cases to follow painting patches of the diseased surface with a pigment of pyrogallic acid in collodion.

Dr. MANTLE: In this case there are no spots on the palms of the hands or soles of the feet, and the presence of these is laid stress upon by Mr. Jonathan Hutchison where a specific origin is suspected. In this case I would advise a trial of turpentine.

Dr. DRUMMOND: Spots on the hands or feet are not necessarily conclusive of specific disease. Crysophanic acid is very useful in such cases as this.

Dr. WATSON (Stockton): I have seen it stated that crysophanic acid rubbed into the limb on one side has been found to be curative of the eruption of psoriasis upon the opposite limb. Can any of the members present tell me whether that is so?

Dr. DRUMMOND: I think the effect of the application is purely local.

Dr. JACKSON (Hexham): I saw one case where crysophanic acid was applied to one knee, and the knee of the opposite side improved under the treatment.

Dr. Collinson: It is my intention to restrict myself in this case to giving arsenic in five minim doses, and to use no local application.

CASE OF PUFF DART IN AIR-PASSAGES.

Dr. Lyon: On September 12th, 1887, J. B., age 11 years, while playing puff-and-dart, put the tube to her mouth, took a deep inspiration, and drew the dart into the trachea. The needle was two inches long, and the wool attached about an inch more, yet the whole passed the glottis so easily that there were hardly any laryngeal symptoms. As the accident occurred in my house, I saw the patient about a minute after. By that time there was no laryngeal distress, and examination with the laryngoscope showed nothing in the larynx.

On September 15th, in the morning, the entrance of air into the whole of the left lung was found to be seriously impeded, and in the afternoon of the same day, when she was seen by Drs. Drummond and Hume, of Newcastle-on-Tyne, the left apex in front was completely blocked, and the rest of the lung free. By next evening the temperature was 100 deg.

On September 17th tracheotomy was performed by Dr. Hume, and an attempt made to reach the needle with forceps, but unsuccessfully. Two days after the operation air was again found to be entering the left apex, but that continued only for one day. For ten days after the operation there was not much general disturbance, the temperature rising to about 102 deg. in the evening.

On September 26th temperature rose to over 104 deg., and three days after to over 105 deg., congestion of the lung at the same time advancing rapidly till the whole became dull on percussion.

It was then thought that an electro-magnet might reach and attract the needle, and after many trials one was finally constructed by Dr. George Buckmaster, of Oxford, of which the core and coil together were small enough to enter a bronchus of the second division. This was used on October 3rd, but without result.

Temperature had been falling for a day before the use of the magnet, and fell more rapidly after being under 100 deg. next day.

On October 7th moist rales in the lung were noted, and a little fresh blood was coughed through the tube.

On October 14th the wool of the dart was coughed through the tube, and the temperature rose to over 103 deg.

On October 20th a fit of coughing came on, followed by vomiting, and pain and choking sensation in the throat. On depressing the tongue I found the point of the needle deeply imbedded in the posterior wall of the pharynx, from which I removed it with dressing forceps. The eye of the needle was found to be broken off.

At the time the needle came away the whole of the left lung was very dull on percussion, and the circumference of the left side one inch less than the right ($13\frac{1}{4}$ by $12\frac{1}{4}$ inches).

Since that time there has been slow but steady improvement in the general health and in the condition of the lung. The dulness at the back has now (December 6) very much diminished, but the apex in front has changed little. The circumference of the left side is still an inch less than that of the right.

Dr. Watson (Stockton): Dr. Lyon's case bears a most striking resemblance to another case reported by Mr. Benthall, House Surgeon to the Hartlepools Hospital, in the *British Medical Journal* of September 30th, 1882, and I cannot do better than give it in the writer's own words.—"In November last, a strong healthy man, aged 29, by occupation a shipyard fitter, was sent to the Hartlepools Hospital, by Mr. Edger, of Hartlepool. He stated that he had been shooting with a blow-pipe and dart, and that, as he was about to blow the dart from the tube, he coughed suddenly. The dart was drawn into his mouth by the force of the inspiration, and he was under the impression that he had swallowed it; but from the history of the case, together with the symptoms described, and the examination which I made, I concluded that it was probably lodged in the right bronchus. The dart was made of a strong needle, two inches in length, around the blunt end of which a quantity of worsted was wrapped, sufficient to fit the half-inch calibre of the blow-pipe tube. After the accident, the patient felt but little inconvenience for two days; he had, however, slight pain in the region of the right bronchus, and a little cough, with expectoration, which was streaked with blood. On the third day, he had a violent fit of coughing, with slight hæmoptysis. Acting on my advice, he remained very quiet for a fortnight, when he was recommended to go to Newcastle, where he consulted Dr. Maclachlan and Dr. Page. On his return, he went to work for a week, when he felt pain in the neighbourhood of the right bronchus, and had violent fits of coughing every three or four days, with slight hæmoptysis, and a taste of worsted in his mouth. The patient gave up work for three weeks, and again consulted Dr. Page of Newcastle. In February, he returned to work, and has continued at work ever since, though he has occasionally had to rest a day or two, owing to violent fits of coughing, accompanied by slight hæmoptysis, and the taste of worsted in his mouth. He has lost a stone in weight, but he does not consider that his general health has been affected. Latterly he has suffered no inconvenience. On July 25th, the patient had a violent fit of coughing, and brought up the thick end of the needle, with some of the worsted still attached to the eye, together with a little blood. The piece of needle, about an inch in length, stuck into the roof

of his mouth, from which he extracted it himself. About sixhours after this, he had a similar fit of coughing, and brought up the point of the needle, about three-quarters of an inch in length. The needle had rusted completely through the middle. The case appears to me to be worthy of interest, inasmuch as a short time ago a similar case was reported, in which the patient is stated to have died of inflammation of the lungs within ten days of the occurrence of the accident. The common practice of shooting with a blow-pipe and dart would seem, therefore, to be an amusement not altogether devoid of danger."

Dr. Hume: Drs. Lyon and Watson's cases are interesting and instructive—in one the case was surgically interfered with, in the other it was left to itself. There are one or two of the surgical details of Dr. Lyon's case I should like to say a word or two about. I should think that Murphy's instrument would have been of very great assistance in doing away with the need of an assistant and the blunt hooks. There was no difficulty in effecting an exploration of the trachea, but there was very great difficulty in effecting anything by the exploration. The patient was a child with a small trachea, and small also was the left bronchus in which we believed the body to be. The proverbial difficulty of finding a needle in a bottle of hay was no greater than we had to deal with here. We went armed with every kind of forceps we could find in the shops of Newcastle. The difficulty was very great in getting the forceps to take the curve of the bronchus, and it was impossible to see where the point of the forceps was. I think I at one time did seize the needle, but I think I only succeeded in embedding the point of it deeper in the tissues.

In regard to the second operation, I did not enter upon it with much anticipation of success.

In addition to the magnet which Dr. Lyon has shewn you, we had an instrument for diagnostic purposes, a pair of electrodes and galvanometer. In regard to the magnet, we had the same difficulty to contend with as in the case of the forceps, in being unable to see where the point of it was. Perhaps, in these cases, the best thing to do is to perform tracheotomy, in the hope that sooner or later the needle may be discharged. In this case it is interesting to note that the needle passed through the glottis, though, what was to be expected, it could not take the curve of the tube.

Dr. Drummond: It appeared to me that the condition of the lung was due not so much to any inflammatory condition. It seemed to me to be a condition of atelectasis. I think the case will do well with time and proper treatment; or it may go on, as in Dr. Cave's case, to fibroid phthisis, or abscess and empyema.

Dr. Lyon: I do not quite agree with Dr. Drummond when he says that the condition of the lung was not due to any inflammatory cause. If it was not due to such a cause, why should there have been such a high temperature?

P.S.—Sept. 27th, 1888.—Patient is now in vigorous health and very stout, weighing 6½ stones. Percussion and auscultation sounds on left side normal, but the circumference is still one inch less than the right, the figures being now 14½ and 15½ inches respectively.—W. L.

CASE OF ABDOMINAL ANEURISM.

Dr. Vann: The patient from whom this specimen was removed had had symptoms of aneurism for about two years. As will be seen, the aneurism is situated at the cœliac axis; and, indeed, it may be said to be an aneurism of the cœliac axis.

Dr. Mantle: Might I ask if, in this case, there was any hæmatemisis or melena? If either was present, then one may make sure that the aneurism is above the cœliac axis.

Dr. Philipson: I am glad Dr. Mantle has referred to this matter, which was a point insisted on by me at the time of the autumn meeting of the North of England Branch of the British Medical Association.

CASE OF ULCERATIVE ENDOCARDITIS.

Professor Philipson: I exhibit the heart, spleen, and kidneys from a case of ulcerative endocarditis; and the following is an account of the *post-mortem* appearances, and history, and symptoms. The heart weighed 20oz.; the left ventricle was dilated and hypertrophied; the left auricle was small; its walls were thin. On viewing the aortic orifice, a thick crop of vegetations were seen projecting into the left ventricle. On laying open the aorta, some of the vegetations were seen to jut out about half an inch from the ventricular aspect of the valves. The valves were ulcerated, and in the anterior one a perforation was found at the base of the other two. The right half of the right cusp and the left cusp were exceedingly disintegrated. The left lung was strongly adherent, consolidated, and presented the appearance of recent pneumonia. The right lung was markedly œdematous. The liver weighed 5lb. 11oz., and presented the appearance of early nutmeg. The spleen weighed 17½oz., and was pale and very friable. There was one wedge-shaped yellow and cheesy infarct abutting on the surface, and three smaller and more recent ones. The right kidney was enlarged, congested, but contained no infarcts. The left kidney was much enlarged, and contained a large, soft, decolorised infarct abutting on the surface.

The patient was a policeman, aged 38, unmarried, and was admitted into the Royal Infirmary under my care on November 12th,

1887. His illness commenced on November 7th—five days before admission. For some time previous he had been on night duty, and had been exposed to very severe weather. On the 7th he was seized suddenly with a violent rigor, followed by great prostration. On the following day he had acute pain in the left side of his chest and back, which persisted until his admission. The same day a cough came on, which aggravated the pain. This was followed by slight expectoration. On admission his pulse was 108, respiration 32, and temperature 103° F. His face was pale, and he looked haggard and weak. There was absolute dulness upon percussion over lower half of left back. The vocal fremitus was increased; the breathing, over the same area, was bronchial; and the voice was bronchophonic. The heart sounds were clear. The spleen was impalpable. The urine was of sp. gr. 1025, and contained a little albumen. On the 8th day of the illness the temperature fell, but never became normal. Coarse bronchial sounds were heard over the lower half of the left lung. For the next two weeks the condition was practically unchanged; the fever persisted, the cough and expectoration were slight, his appetite was moderate, and he was free from pain. On December 3rd he was evidently worse; and upon examination a loud, rough, systolic murmur, with the first sound at the mid-sternum, was heard, and was conducted along the great vessels. A thrill, systolic in turn, was felt at the base. The impulse was very forcible. There was a perceptible dulness in the splenic region. The urine was bloody. Subsequently the physical signs were little altered; the murmur persisted, he became gradually weaker, and died on December 12th—the thirty-fifth day of his illness.

Mounted microscopical specimens were shewn from the aortic valves, with micrococci, prepared by Dr. Drummond, and from the infarcts in the spleen and left kidney, prepared by Dr. Oliver, and for which I express my indebtedness.

Ulcerative endocarditis is manifested by severe and striking symptoms, although amongst these the phenomena of cardiac inflammation were comparatively subordinate to those of general infection.

It was on this account that ulcerative endocarditis had only recently been definitely recognised as a distinct form of disease, the conditions of the endocarditis *post-mortem* having been apparently disregarded in the presence of virus lesions of the other viscera.

There was little doubt that the ulcerative process itself and the general symptoms associated with it were referrable to the influence of septic organisms, and that the disease was chiefly related to pyœmia, and depended on the repeated discharge into the blood of minute fragments of detritus, or emboli, which (distributed throughout the system) obstructed the small arteries, and

mainly those of the kidneys, spleen, and liver, causing infarcts with attendant inflammation, which was apt to spread from the solid organs to the virus membranes. Commencing with a sudden rigor, ulcerative endocarditis resembles a simple continued fever, enteric fever, or assumes a marked pyœmic character. If, however, the remittent nature of the fever, the development of a loud systolic murmur, the enlargement of the spleen, and the albuminuric, or possibly bloody urine, were carefully regarded, there could be no difficulty in the diagnosis.

Dr. Oliver: This is one of the finest specimens of ulcerative endocarditis that I have ever seen or that, so far as I know, has ever been exhibited to the Medical Society. Through the kind permission of Professor Philipson, I am able to put under the microscopes a section of one of the infarcts of the spleen and of the kidney. No bacilli had been detected in them. During the life of the patient, and whilst acting as Assessor in Clinical Medicine in the examination for the degrees in medicine of the University of Durham, I had the opportunity, along with the Professor of Medicine, of examining the patient in the ward upstairs. At that time there were still signs of considerable pleuropneumonia of the left base, and, in addition, loud rasping aortic murmurs. The diagnosis thus made by Dr. Philipson was pleuropneumonia and ulcerative endocarditis, a diagnosis confirmed by the specimens exhibited to-night. I should like to ask Dr. Philipson, however, as to the condition of the heart before the development of the pulmonary affection, if he can give it us; and, if not, then the condition of the heart on admission. We believe that in this case the micrococci which have given rise to the ulcerating lesion of the endocardium were transferred thither from the lung, but we know from experience and experiment that it is a difficult matter to impregnate the endocardium with these infective agents so long as the endocardium is healthy and remains unbroken.

Professor Philipson: At the time of the patient's admission the heart was healthy. I am of opinion that the micrococci which gave rise to the lesion in the endocardium were transferred thither from the lung.

WOMAN WITH THORACIC ANEURISM.

Dr. Oliver: I bring before the Society a woman who is the subject of thoracic aneurism. She is only 30 years of age, and, as you see, is healthy looking. She has a good family history, is married, has never had children nor miscarried. There is no history of syphilis. Previous to her marriage she used to work in the fields. Two years ago, when cleaning a window in the upper storey of a farm-house, she fell backwards to the ground, injuring, but only slightly, she says, her back, left side of chest, and left

arm. No ribs were broken. Eighteen months ago she began to cough and to spit up a little blood. Within three months, cough with expectoration had entirely disappeared. A few months after this she began to suffer from pains in the chest, at the seat now of this large pulsating tumour, but which made its appearance gradually. When I saw her for the first time, six or eight months ago, the swelling occupied the middle portion of the manubrium sterni. Under treatment by iodide of sodium and rest in bed the tumour remained stationary; but she left the Infirmary, and after an absence of about six months returned with the tumour very much increased in size. It has all the characters of aneurism, and, as you see, has only a very thin covering of skin. Although the sternum has been penetrated there has been next to no pain felt, and as the aneurism is developing in a forward direction there have been none of the ordinary pressure symptoms so frequently met with in thoracic aneurism. She is taking very large doses of sodium iodide. We cannot but regard the case as one unlikely to receive any permanent benefit from treatment.

Dr. Philipson: This is a very rare case, especially when one has in regard the sex of the patient. I can recall one case resembling this, one which I saw in this hospital under the care of Dr. Embleton. In that case there was a pulsating tumour over the manubrium sterni, and there was a second aneurism of the abdominal aorta. In that case I remember Dr. Embleton laid stress upon the specific history. The specimen removed *post-mortem* can now be seen in the museum of the Infirmary.

CASE OF SUPRAPUBIC LITHOTOMY.

Mr. Rutherford Morison: This stone, apparently an oxalate one, coated with phosphates, was removed by suprapubic lithotomy by me early in December last, from a patient who will be 80 years old if he lives till next July.

The history of his case is that, for some years, he has had occasional pain and difficulty on micturition, but, until recently, nothing that he considered of much importance. I saw him first in November, when I found him suffering from cystitis, with frequent and painful micturition. On examining his urine, I found it had a sp. gr. of 1003; it contained 1-4th of albumen, and a large deposit (about 1-10th) of mucopus on standing. During his life-time he has had six attacks of rheumatic fever, and his heart is hypertrophied, its action occasionally intermittent, and at the apex a systolic murmur. Sounding was postponed meanwhile, and he was treated by rest, iron, and digitalis, and milk diet. The amount of albumen diminishing to 1-6th, and the urine, from being scanty, having increased to a fair quantity, I sounded him in the first week of December, and, finding a stone, proposed an

operation. To this proposition he willingly acceded, as his sufferings had become extreme.

As an instrument did not go readily into the bladder, on account of some twisting of the urethra, by an enlarged prostate, and the stone was judged by its tuberculated surface to be an oxalate, and consequently hard to crush, I decided to perform the suprapubic operation. About six ounces of fluid was injected into the bladder, and the ordinary abdominal incision made. When the different layers covering the extra vesical fat had been divided, an ordinary lithotomy shaft was introduced into the bladder, and the point pushed forward against the frontal wall of the bladder. With this as a guide, the bladder was opened, and the stone extracted.

Urine was first passed by the ordinary channel on the 12th day. Healing is now completed. There was never any rise in temperature or trouble of any sort in connection with the wound, but after some trouble in having the bowels moved during the second week, the old gentleman quarelled with his relatives and the nurse —thought they were trying to poison him—and became mildly maniacal. These mental symptoms have gradually passed off, and he is now well.

Dr. Hume: I think I may tender, on behalf of the members, our hearty congratulations to Mr. Morison on the brilliant result of this operation.

NORTHUMBERLAND AND DURHAM
MEDICAL SOCIETY.

SESSION 1887-88.

FEBRUARY MEETING, 1888.

The Fifth Monthly Meeting of the session was held in the Library of the Newcastle-on-Tyne Royal Infirmary, on the evening of Thursday, February 9th—Dr. Hume (President) in the chair.

NEW MEMBER.

Robt. Mitchell, M.B., C.M., Hebburn-on-Tyne, was unanimously elected a member of the Society.

CASES OF EMPYEMA.

Professor Philipson: G. B., aged 27, married, a steam crane worker, was admitted into the Royal Infirmary, under my care, on October 18th, 1887, complaining of pains in the right side and back, of three weeks' duration.

Family History.—Unimportant. *Personal History.*—Patient has been in the tropics, has been always addicted to drink, has had ague ten times, and dysentery. There is a history of gonorrhœa, but none of syphilis.

Present Illness commenced three weeks before admission with pain in the side and shortness of breath. A fortnight before admission patient had one severe rigor.

On admission patient was seen to be much emaciated, and was in great pain. Temp. 103° F., pulse 96, resp. 36. No appetite. Bowels confined. Over the lower half of the right chest there was dulness on percussion, suppression of breath sounds, and absence of vocal fremitus.

Nov. 6th.—The right chest was explored with a hypodermic needle, and pus was found.

Nov. 12th.—An opening into the chest was made, and a large drainage tube was introduced under antiseptic precautions. A great quantity of dark fleshy-looking purulent fluid came out, which was sweet; it was dressed antiseptically. Patient was dressed every two or three days; the discharge continued sweet, very abundant, and of the same character as at first.

Dec. 11th.—The antiseptic dressings were left off, and simple dressings applied morning and evening.

Dec. 15th.—Patient had a severe rigor, the temperature running up to 106° F., the wound was found to be quite sweet, the discharge free and abundant, and of the same character as before.

Dec. 16th.—The temperature fell again to 101° F., and the discharge was much less in quantity, and consisted entirely of a thin, yellow, transparent fluid, highly albuminous, and resembled olive oil both in appearance and to the touch.

From this time patient's temperature was very variable, the discharge remaining of precisely the same character.

Dec. 27th.—Temperature became normal, and has not risen since; the discharge got gradually less in amount, and on

Jan. 5th it ceased altogether, the tube was removed, and the wound healed.

Jan. 21st.—Patient went home practically well, having gained about two stones in weight since his illness.

Dr. Oliver: When my friend and colleague, Professor Philipson, intimated to me his intention to show a case of empyema treated by incision and drainage, I thought that this would be a fitting opportunity for me to show also a case of empyema in which perflation was practised. This man is aged 36, and is a shoemaker by trade. He was sent to me by Dr. Campbell, of Newcastle, who, three days before his admission into the Infirmary, had removed about a quart of purulent fluid from his right chest. There is no history of chest disease in patient's family. Until five weeks ago he was quite well. He caught cold; but though he has had cough and shortness of breath, he has never had any pain in his chest, nor has he had shiverings. On admission it was noticed that the right side of the chest did not rise well during inspiration; there was dulness under the right clavicle; but from one and a half inches below this to the seventh rib the note was hyper-resonant; the hyper-resonance extended across the sternum to its left border. Over this hyper-resonant area there was absence of the respiratory murmur, as also of the vocal resonance and fremitus. Posteriorly there was dulness over lowest half of right lung, with absent respiratory murmur and vocal fremitus and resonance. Heart healthy, also left lung. Urine free from albumen. We had clearly here a case of pyopneumothorax to deal with. The interesting point in the case is that the pleural fluid was purulent from the first, that it accumulated without any appreciable rise of temperature, and that its removal was followed by pneumothorax. On November 12th a free incision was made between the seventh and eighth ribs in the right postero-axillary line into the chest: 44oz. of thin sanious foul-smelling pus were removed. A counter opening was made between the fourth and fifth ribs in front. Through the anterior opening air previously passed through carbolic acid lotion was pumped into the pleural cavity, and whilst

this was being done the posterior wound was stopped by the finger, so that no air could for the moment escape. When sufficient carbolized air had been blown by means of this pair of bellows into the pleural cavity, a fact the patient was soon conscious of by the increased difficulty of breathing due to the augmented tension of air in the pleural space, the finger was removed from the posterior opening, and fluid with air at once escaped. Antiseptic dressings were then applied, and the case treated in the ordinary way. This treatment was adopted daily until the bellows unfortunately broke. Between the seventh and eighth week after the operation the wounds were perfectly healed. Patient now looks well, and says he feels remarkably well. He has gained 11 lbs. in weight since the operation, has hardly any cough, and no difficulty of breathing save on exertion. Patient is leaving the Infirmary, for the time being at least, practically cured. It remains to be seen how long he will continue well. I am satisfied of the efficacy of perflation, and hope to give it an extended trial. My thanks are due to our junior house-physician, Dr. Nihill, for the pains he has taken in carrying out the treatment.

Dr. Murphy: I am particularly struck with the success which has attended this case without excision of the rib. I have had three cases lately, the last of which was with a child seven years of age. There was in this case no rigors, and no very high temperature. I thought it was a case of pleurisy with effusion, but found on aspiration that the effusion was pubulent. It was treated by incision and drainage, and patient did very well for some time, but the sinus has re-opened and I am afraid I will require to have a portion of rib resected. My second case did well without excision, but in the remaining one I had to remove a portion of rib.

Dr. Drummond: Dr. Oliver says in these cases there are present high temperature, shivering, and pain. This, I may say, has not been by any means my invariable experience. I do not know that there is any sign which by itself can altogether be relied upon. You hear the whispering pectoriloquy in some cases where you have pus; and in some cases where you have only serum.

Dr. Oliver: I have a case under me at the present in which there is a very high temperature. In this case I have no doubt there is phthisical taint which may, in some degree, account for the febrile condition. In regard to Bacelli's sign, I agree with Dr. Drummond that no one sign is to be relied upon.

MALIGNANT DISEASE OF HIP-JOINT.

Mr. Page: I have brought this boy before you to-night in order that you may see the result of an operation which I performed on him, for malignant disease of the hip-joint, over fourteen months

ago. The lad is 18 years of age, not perhaps very well grown for his years; but, as you will see, there has been no return of the malignant disease, and the lad has picked up in his general health very much since the time of the operation.

UMBILICAL CORD, WITH TRUE KNOT.

Dr. BRADLEY: I show this umbilical cord, 42 inches long, with a true knot upon it. The rarity of the occurrence must be my excuse for exhibiting it. In this case, Mr. President, all the essential conditions were present, namely, a long cord and a large quantity of liquor-amnii. The child a male) is alive and healthy.

ANEURISM OF THE AORTA.

Dr. BRADLEY: This specimen, sir, was obtained from a man, aged 39, height 6 feet 1 inch, and a blacksmith's striker at Messrs. Palmer's. He was admitted into the Memorial Hospital on January 27th, where he died five minutes afterwards.

State on admission.—Pupils normal. Great state of collapse. The right radial pulse could scarcely be felt, the left not at all. Heart-sounds extremely faint. No murmur could be made out.

Previous History.—He went to work when eight years of age. Up till a year ago drank freely. No history of syphilis. About twelve months ago he began to complain of pain in the small of the back and over the hepatic region. Pain in the back worse at right side. Was treated for enlargement of liver. The symptoms grew worse, and latterly he complained of a sharp tearing pain under the sternum, having a tendency to extend to left shoulder and arm. Some difficulty in swallowing, but none in breathing. No vomiting. Deceased was seven weeks in the Newcastle Infirmary for an injury to the back when about nine years of age.

Post-mortem.—On opening the abdomen the stomach was seen to be distended with what turned out to be a large clot of blood. The liver was not enlarged, and the other abdominal organs were healthy. On removing the lungs, the descending aorta (a little before it pierced the diaphragm) was seen to be dilated, and on inspection a communication was found to exist between the aneurism and the œsophagus.

AMPUTATION OF FORE-ARM.

Dr. BRADLEY: This old man, who is 80 years of age, while at his ordinary occupation in Palmer's Shipbuilding Yard, had his left fore-arm caught and severely mangled in a drilling machine. He has suffered for years with chronic Bright's disease, and has accentuation of the heart's sound. I amputated the fore-arm above the seat of injury; and despite his age and infirmities, he

recovered from the operation very well, and has, as you see, a very good stump as the result.

CASE OF CEREBRAL TUMOUR.

Professor PHILIPSON: C. R., housewife, was admitted to the Royal Infirmary, under my care, on January 11th, 1888, with a bulging tumour of the forehead, accompanied by great pain. Patient was unconscious, and notes were taken on January 13th, 1888, partly from husband.

Family History.—Nothing bearing on the case; no insanity or suspicion of fits in family.

Personal and Previous.—Patient has been married 23 years, has had ten children, of which four died in infancy (cause: chiefly bronchitis). Has had no miscarriages, abortions, or instrumental deliveries; no history of unhappiness, privation, or serious illness; no eruptions, œdema of vulva, sore throat, or any specific symptoms; has had no generative or catamenial troubles (no dysmenorrhœa). Patient had a fall from a wheelbarrow 30 years ago (13 years of age), but no serious symptoms arose at that time.

Present Illness.—Ever since the accident patient has suffered from frequent and severe headaches, chiefly of a frontal character. Four years ago she had a fit, and was picked up unconscious, remaining so for twelve hours. She did not injure herself in any way; had not bit her tongue, but she frothed at the mouth, which was screwed to the left, the eyeballs upward; evacuations passed involuntary. Since this time she has had a recurrence of the fits about every three months. She has been progressively getting weaker, and the headaches are much worse. There is no premonitory symptom of fit save a little absent-mindedness.

Present Attack.—She has gradually got more irritable; and a tumour which was only noticed four years ago has increased in size over the frontal (right) region. On January 11th, 1888, she had another attack, vomiting several times, and was admitted an in-patient.

Condition on Admission, et seq.—Patient vomited twice on admission. Lies on her right side; is dazed, and does not speak. The stupor passed away in about twelve hours, but patient had no recollection of the fit; complains of sorenesss in muscles, and great pain extending from the vertex to the mastoid processes and down the neck. The patient had no control of evacuations, and movements were of epileptiform character. Headaches of a paroxysmal character. No ankle clonus, increased knee jerks, or loss of sensation.

Tumour.—Inspection: Extends from right frontal eminences to the left. *Palpation:* Bulging, boggy, not reducible, no pulsation, fissure detected in bone, no bruit on ausculation, somewhat pain-

ful. *Measurements:* From occiput round tumour to centre of frontal—right side, 11½ inches; left side, 11 inches.

Ophthalmoscope.—Pupils widely dilated; double optic neuritis.

Respiratory and Circulatory.—No adventitious sounds in chest or heart; no bruit or enlargement.

Urinary.—S.g. 1015, acid: amber. No albumen.

Treatment.—Ex: cann: Ind: ½ gr. pil. t.d.s.: milk diet.

Progress.—January 19th: Patient quite rational; no vomiting, and only slight pain. *January 28th:* Fissures plainly felt; tumour a little larger, and apparently alters its shape; little or no pain. Patient is wishful to go home, and is allowed to do so.

CASE OF "CHARCOT'S JOINT."

Dr. LIMONT: This patient presents in his left knee the condition known as "Charcot's joint." One can scarcely call the case one of locomotor ataxia, for there is no more unsteadiness in walking or standing than can be accounted for by the joint lesion. There is no doubt, however, in my mind but that it is a case of tabes dorsalis, in which are present only the symptoms generally first developed.

The patient is a sailor and aged 38. He has been much exposed to wet and cold, but has not drunk very heavily. Ten years ago he had a chancre. There is no history of secondary symptoms, but there are numerous sharply-cut depressed cicatrices and brown stainings over the body. His wife has been only once pregnant, and miscarried.

Three or four years ago he first noticed pains shooting up and down the calves, and a few months later in the arms, groins, and perineum. About a year ago he noticed that he saw double, but latterly this has not troubled him. For a considerable period there has been affection of micturition; the calls to the act are very infrequent—frequently only once a day, and the stream is very sluggish. Sexual desire and capacity were some time ago increased, but are now much lessened, if not indeed absent. He has never noticed numbness, giddiness in the dark, or the phenomena of any of the crises. The knee-jerk is absent in both legs. The Argyll-Robertson phenomena is not present, but the pupils re-act very slightly to light.

Three months ago a painless swelling appeared in the left leg, remained a week, and then disappeared.

About ten days later it re-appeared in the leg and knee, remained a week, and then disappeared Five weeks ago the knee enlarged to its present size, without pain, in two or three days, and at the same time the marked œdema of the leg and thigh came on. The affection did not prevent him from doing his usual work.

When admitted the knee was greatly distended with fluid, the ligaments being stretched so that there was lateral movement.

There was considerable heat in the joint, but no pain and no redness. On first examination there appeared to be considerable thickening of the ends of the femur and tibia; but on further examination the increase was found to be slight, and, in my opinion, is entirely due to previous deformity, viz., knock-knee. On placing the patient in the ataxic position, with the eyes shut, there is very slight swaying, and his walk, though not very steady, presents nothing characteristic of ataxia.

EXTRA UTERINE PREGNANCY.

Mr. Rutherford Morison: Mrs. J., æt. 28, mother of five children—oldest, 12, youngest, 3—was first seen by me 6th December, 1887.

History.—Two years ago she had an attack of inflammation in the lower part of the bowels, which her medical adviser said was brought on by cold caught during a menstrual period. This illness confined her to bed for nearly three months. From this time up to two months ago she had been well; she then menstruated normally, but her next period was missed, and she has not felt right since.

December 6th.—She complained of periodic attacks of pain in the lower part of the bowels, so severe as to oblige her to lie on the sofa or remain in bed.

December 13.—She has considerable hæmorrhagic discharge from the vagina, and this, together with the severe periodic pain and the probability of pregnancy, made her suspect that she was going to abort. She objected to a vaginal examination, so that it was not possible to form an accurate opinion. Discharge continued more or less every day; the pains got worse; her general health began to fail from sickness, loss of appetite, and pain. It was not, however, till December 24th that she would allow an examination to be made, and then, though I found something was wrong, and had a suspicion what it might be, I could form no definite opinion, because of her struggles and complaints. On December 28th, with the consent and assistance of her friends, I succeeded in getting her to take chloroform, and found on making an examination, per vagina, that the uterus was enlarged, and cervix soft, feeling like a pregnant one. Behind the uterus was a tumour, which I had previously discovered to be very tender on pressure. The tumour was rounded and elastic, feeling as if it contained fluid. In front of it lay the uterus, the outlines of which could be mapped out distinct from but closely connected with the swelling, which reached midway between the umbilicus and pubis; the breasts contained colostrum, and there was a well-marked areola round the nipple. After the chloroform, she was very ill, with pain in the precardiac region, and shortness of breath. Nothing could be found to account for this, but she

said she was dying. For the last week her temperature had been varied, about 100° in the morning, 101° at night.

December 29th.—Dr. Murphy, of Sunderland, saw her with me in consultation. He made a further examination under chloroform, and passed a uterine probe. His opinion confirmed that of my brother, who was associated throughout with me in the case, and myself, that there was an extra uterine pregnancy. The patient, however, was so ill, we all agreed that to operate would kill her, and a decision was arrived at to wait for a few days and see if any improvement in her general condition could be brought about.

She improved after this, and the operation was performed on January 2nd, Dr. Murphy present and assisting.

The abdomen was opened under the spray in the middle line. The tumour was found to be covered in front by adherent omentum. It was adherent to the parietas below for the lower half. On dividing the omentum it was found to be free above. Since our previous examination the tumour had increased in size, and was now level with the umbilicus. On introducing my hand into the abdominal cavity I found the cyst closely adherent in Douglas's pouch and round the pelvic brim, making it improbable, even not taking into consideration its size, that I could get the whole cyst out. Accordingly, after packing the abdominal cavity with sponges, I incised the front valve of the tumour. Terrific hæmorrhage followed, which I arrested by packing the incision in the tumour with a sponge. The credit of this suggestion belongs to Dr. Murphy, and to it the patient undoubtedly owes her life. The sponge was left and the sac round it carefully sutured to the parietas, leaving exposed part of the sponge wholly outside of the abdominal cavity. The operation was concluded by suturing the remainder of the parietal wound. A drainage tube being left to drain the peritoneal cavity, the patient was put to bed, apparently little worse for the operation.

8 p.m.—Wound dressed on account of slight oozing.

3rd January.—Patient had a fairly good night; no sickness. Pain less since operation. Wound dressed under spray. The sponge left in at time of operation was removed, but free bleeding commenced. The cavity where the sponge had lain was plugged with gauze, and the bleeding stopped.

4th January.—Good night with a draught. Drainage tube removed. Dressed.

5th January.—Patient complained of a good deal of pain in abdomen. Bowels swollen. No evacuation since operation. $7\frac{1}{2}$ grains of calomel and enema operated satisfactorily.

6th January.—Plug of gauze removed and renewed; no signs of bleeding; very little discharge.

7th January.—Temp. 101·8. Feels well, however.

9th January.—Dressed. On removing gauze and introducing finger, the cyst can be distinctly felt fluctuating underneath.

10th January.—Temp. 102·8.

11th January.—A hypodermic needle pushed into sac withdrew fluid. A director was passed along the needle, and along the groove in the director a pair of dressing forceps was pushed, opened, and withdrawn. About a pint of blood-stained fluid, containing purulent floccali, and smelling of liq. amnii, escaped, but no fœtus. The cavity was stuffed with gauze.

12th January.—Temp. 100·8. Feels well and comfortable. Dressed. Gauze plugs removed. Two large drainage tubes inserted. All went well till January 25th. In trying to remove a portion of sloughy-looking placenta free hæmorrhage occurred. The patient was put under chloroform once more, and the whole sac explored and cleared of placental and other delvis. On searching this a perfect fœtus, of two-and-a-half or three months, was discovered, and is now in my possession, preserved in spirit. The patient was soon able to get about, and felt well, but a small sinus continued unhealed for nearly three months. She is now entirely recovered.

TUBERCULAR HEART AND PERICARDIUM.

Dr. Oliver: These specimens were removed from the body of a young man who died, a few days ago, at the age of 23. Four years ago he was under my care for a tumour of the abdomen—occupying the neighbourhood of the umbilicus, and which was then diagnosed as a scrofulous tumour of the omentum. Under treatment he so far recovered that he was able to return to work, which, with one or two breaks, he followed until a few months ago. During the periods of our earliest observation of him there was never any rise of temperature nor any signs of pulmonary disease. Some weeks ago he turned up at my out-patient department with his abdomen enormously distended, containing fluid which we regarded as encysted, with râles in his lungs, and his feet very much swollen. There were signs of the presence of fluid in his chest as well, and he was suffering much from dyspnœa. There was no albumen in the urine, and at this stage the heart's sounds were normal. Of the association of tubercular disease in chest and abdomen there was not the least doubt. By degrees it developed itself more in the chest—friction sounds were heard over the pericardium. Pericarditis became very marked and hastened on the fatal termination. At the *post-mortem*, in addition to extensive tubercular disease of lungs, abdominal glands, peritoneum, &c., the heart and pericardium were found to be the seat of a recent tuberculosis. Numerous tubercles are seen studding the surface of the heart.

HEART WITH CHORDA TENDINEA STRETCHED TRANSVERSELY ACROSS THE INTERIOR OF THE LEFT VENTRICLE.

Dr. Oliver: In the patient to whom this heart belonged there were detected, during life, murmurs pointing to the existence of aortic and mitral regurgitation. At the *post-mortem*, in addition to a diseased condition of the valves of the aortic and mitral orifices, a strong tendinous band stretched transversely across the interior of the left ventricle. It is attached by several filaments to the muscularis on the one side, and by two stronger filaments seems to arise from a columna carnea on the other. The cord is a fœtal imperfection, and points to a time when the substance of the heart was of a spongy nature.

PATHOLOGICAL HYPERTROPHY OF TIBIA.

Dr. Heath: Some twenty years ago this patient received a blow with an adze upon the right tibia. This was followed by gradual enlargement of the bone, and by an alteration in its shape. After about six years the morbid changes ceased, but the bone remained enlarged and curved. About five years ago he received a second blow lower down on tibia, after which the enlargement and alteration in shape recurred, and has continued to the present time, when, as members may perceive from the great heat in the part, as compared with the other limb, increased vital action of some kind, probably vascular activity, is in progress.

At present the right tibia, 14 inches round, is much larger than its fellow, is altered in form, more curved, and the anterior ridge more pronounced. The increased heat is remarkable to the hand, less as measured by thermometer than one might have expected.

At first sight one might feel inclined to say this limb resembled a limb suffering from what has been termed osteitis deformans, but the history, general appearance, and age of the patient are against this view, as well as the fact that one limb only is affected. The case is not one of acute inflammatory disease. There are no signs of suppuration, nor is there any appearance of any new growth or hydatid tumour.

Nor can we look upon it, on the other hand, as a simple hypertrophy as may occur from over use, such as is shewn in a specimen in Guy's Hospital, and in which the bones of the upper limbs are larger than those of the lower, having been used in progression in consequence of paralysis of the lower limbs.

The case more resembles that related by Puratt Hewitt, in which the bones of the skull increased in size from year to year, so that the patient only became aware of the change when he required to buy a new hat.

We must, I think, consider this as a case of chronic ostitis, with sclerosis; or if we are influenced by the absence of ordinary inflammatory symptoms, pathological hypertrophy.

OVARIAN AND UTERINE DISEASE.

Dr. MURPHY exhibited the following examples of ovarian, tubal, and uterine diseases, viz., five ovarian tumours, two cystic tubes, one uterine polypus, one large cauliflower-growth removed from cervix, and one hydatidiform mole, and said: Mr. President and gentlemen, many years ago, when shewing an ovarian tumour that I had removed from a patient who died two days after the operation, I stated my opinion that it would be desirable to have records of all the unsuccessful ovariotomies as well as the successful ones, and promised to report all my ovariotomies to the Society, no matter what the result. That must be my apology for shewing these ovarian tumours to night, as I have hitherto kept my promise, but will now ask to be relieved from it for two very good reasons—first, that I have not had a death from ovariotomy since then, that case being my first and only death; and, second, that I feel that the Society must be heartily sick of ovarian tumours now and records of their successful removal, so that in future I shall not feel bound to shew any more, unless they are of some special interest. Briefly the notes of nine cases are as follows:—

Mrs. C., æt. 34, kindly sent by Dr. Mitchell Hunter, ovariotomy, November 9th, large cyst, practically monilocular, and firmly adherent all over the front and sides, so firmly that in some places the cyst had to be cut off the peritoneum. A very large number of bleeding points were tied, and a drain used. For the first 48 hours the amount and colour of the fluid removed gave rise to some anxiety, but she made an excellent and rapid recovery.

Mrs. W., æt. 52, kindly sent to me by Dr. Lambert, enormously stout woman, weighed 16st. 7lb. Operation, multilocular cyst firmly adherent to abdominal wall in front, cyst emptied, incision enlarged and cyst turned out; no further adhesion, no vessels required ligature; but as there was a little oozing from anterior abdominal wall, drainage tube used; left hospital on sixteenth day.

Mrs. P., æt. 41, kindly sent by Dr. Hutchinson, of Haswell. Ovaritomy on September 1st, large unilocular cyst firmly adherent to anterior abdominal wall, also to sides of pelvis; much difficulty in removal, many bleeding points ligatured, drained. Recovery.

Mrs. M., æt. 36. This was the first patient I have ever had admitted to hospital with an ovarian tumour who applied direct; confined six weeks previously. Large multilocular tumour very high up in abdomen; hand can be passed freely into brim of pelvis as tumour is fixed high up, owing apparently to adhesions formed during pregnancy. Ovariotomy, October 30th, adhesions numerous, and easily broken down, drained. The incision had to be a very long one, and more sutures were required than had been prepared,

with the result that round those to be sutured a little suppuration took place, which prolonged her stay in hospital.

Cauliflower growth of cervix.—I am indebted to the kindness of Dr. Hind, of Stockton-on-Tees, for this specimen. Mrs. L., æt. 32, has suffered from bearing down, hæmorrhage, and pain for a year. This large mass occupied the vagina, and I removed it on December the 7th with an ecraseur. She has continued free from pain and hæmorrhage since the operation, and has returned home feeling quite well, but it is only a temporary feeling, as even already the disease is returning; and while the operation has undoubtedly added somewhat to her comfort, I fear it will not add very much to the length of her life.

Cystic Tubes.—These were removed from Mrs. E., æt. 39, kindly sent by Dr. Pearcey, and the patient's history is as follows:—For three years she had suffered almost constantly from hæmorrhage, never going more than ten days or a fortnight without seeing something, and at times having it most profuse. I tried every remedy I could think of, and had her under observation for about eighteen months. Various tonics and astringents, local and constitutional were used. I curetted the uterus several times, applied various caustics, but all to no avail, and finally I removed her ovaries and tubes, which I shew you, and with regard to them I would wish to draw the Society's attention to the fact that this is one of the class of cases that Apostoli claims to have successfully dealt with; but, inasmuch as the disease is in the tubes and ovaries, I fail to see what benefit electrolysis could confer; though, as regards the result, it could not be worse, I am bound to say, as unfortunately the patient died; and I cannot help feeling that I am to some extent responsible for this in not operating before I did, before she got into such a low exhausted state.

For this large uterine polypus I am indebted to Dr. Ridley Dale, who kindly asked me to see a patient over eight months pregnant, who had had repeated floodings. On examination, this polypus was found filling up the whole of the vagina, and the depression in it, which I show, exactly resembles the cervix—so much so that at first it looked extremely like a case of pregnancy with epithelioma of the os, and it was only by passing the hand, with difficulty, beyond it that its true nature was ascertained. I removed it with the ecraseur, and labour went on to its full time, and the patient had an easy and safe delivery of a living child.

The last specimen which I have here I also owe to my friend Dr. Ridley Dale. It is a very perfect and beautiful specimen of myxomatous degeneration of the placenta, or, as it is generally termed, hydatidiform mole, which, from its rarity, is worthy of the consideration of the Society, as well as from the difficulty of its diagnosis, and the best method of treatment. As regards its

rarity, Madame Boivin asserts that it occurs only once in 20375 deliveries; and though, perhaps, it occurs more frequently than this, I am not aware of any more trustworthy table. As regards its diagnosis, the cases it has to be distinguished from are myoma of the uterus and placenta prævia. Depaul alleges that a more rapid development of the uterus occurs than in normal pregnancy. In one of his cases the uterus was four fingers'-breadth above the umbilicus at four months; and though this is contrary to my experience, the cases I have seen are too few to justify me in denying it. A very important point is the attacks of hæmorrhage, which have appeared as early as the forty-fifth day, although a case is on record where they were delayed for fourteen months. My experience is that they occur more continuously than in placenta prævia, and if the patient is closely questioned it will be found that, in addition to the hæmorrhage, there is more or less of a slightly brown coloured discharge, or the discharge is sometimes described as resembling currant juice. If this is carefully examined some of the vesicles may be found in it, which, of course, completes the diagnosis. And that being done, I look upon the best treatment as the introduction of the sound, which should be passed freely round the mass, the hæmorrhage, if severe, being controlled by Barnes's bags, and to give ergot freely, if necessary, using the ovum forceps or the finger to get rid of the mass afterwards. This I regard as the best treatment, having regard to the fact that the disease may otherwise go on for months, although I am aware of cases occurring where a healthy fœtus may be present in addition to the diseased mass. We have it on the authority of Depaul that the celebrated Beclard was the twin brother to a hydatidiform mole. I would call the attention of the members to the fact, which is very clearly shewn in this specimen, that although on a superficial glance the mass somewhat resembles a bunch of grapes, on close examination it is clear that one vesicle gives rise to another, and the pedicle of the latter is connected with the former. Of the many views as regards its pathology, that of Virchow is probably the most correct, who points out that the normal villi of the chorion have entering into them the same tissue as that which makes up the Whartonian jelly of the umbilical cord. Each villus has an external epithelial covering, but the framework, the body of the organ, is formed of mucous tissue. Hyperplasia of this tissue is the essential fact in myxomatous degeneration of the chorial villi. The contents of the enlarged villi consist of albumen, together with a relatively large quantity of mucine; the fluid is generally clear, but sometimes reddened by dissolved hematine. It was, doubtless, from this disease that the Countess Margaret, wife of Count Herman, of Heneberg, suffered, who is described by Paré as having given birth, on Good Friday, 1276, to 365 "infants,"

whereof 182 are said to have been males, as many females, and the odd one an hermaphrodite, who were all baptized—those by the name of John, these by the name of Elizabeth—in two brazen dishes, by Don William, Suffragan Bishop of Treves." Paré, alas, does not describe how the sexes were distinguished, and I regret that I cannot offer even a conjecture on the matter; but I suspect it would have been more prudent, if it were considered necessary, to give them a name, to have chosen one applicable to either sex, as I did on one occasion, where I had delivered a very small fœtus, with a slight flicker of life in it, and, as it was a case of placenta prævia, in which the woman was much exhausted; while holding on to the uterus with one hand, as time was of very great consequence, and as two experienced matrons differed *in toto* as regarded the sex of the fœtus, but urged me to call it anything I liked. I promptly baptized it Francis (Frances) before the slight flicker disappeared.

THE LOCAL MUSEUM OF ANATOMY AND PATHOLOGY.

By W. P. MEARS, M.D., Lecturer on, Examiner in, and Supervisor of Anatomy in the Faculty of Medicine of the University of Durham, and Curator of the Museum of the University of Durham College of Medicine.

[*The Paper was illustrated by numerous specimens and preparations from the Museum.*]

Science and scientific education have of late been making very substantial progress in Newcastle. We find the Science Faculty of a University outgrowing its older limits and installing itself in laboratories of the highest class. We possess in a new home a Natural History Museum of which the like is not to be found in the provinces. We see an elaborate and complete Science and Art School developing beyond all expectation, and sending offshoots over all the country side. We have High Schools established, with full equipment for the teaching of science, and in one of the most important of these a Teacher of Science appointed against all precedent as head-master; and we meet with a demand for scientific lectures and instruction on every side.

As regards Medicine the same change is manifest. The local school has developed into a University College, drawing its students in fourfold proportion from all parts of the kingdom, and is about to take possession of buildings second to none in educational fitness and architectural effect. This Society also, far from being weakened by its parentage of other similar societies in the district, has gone on increasing its membership, extending its influence, advancing its area of discussion in close touch with the advance of scientific medicine, and accumulating round itself here a literature which to a large extent can take the place of the comparatively inaccessible libraries of the metropolis.

Whether for the purpose of further professional development it is practicable or even desirable that any special relation should be established between the College of Medicine and the members of the profession in the district generally, as has been attempted with much success in London, Edinburgh, and New York, by the institution, for example, of Post-graduate Courses, and by the opening of the laboratories for special work in Bacteriology, Sanitation, and other subjects, is a question which does not fall within the scope of this paper.

There is, however, one point in regard to which I believe a certain degree of association between the College and this Society would prove beneficial to both; in regard to which also I venture to think that the development of this Society has not quite kept pace with that of the other Institutions to which I have alluded, namely, in the leaving of no means unused for the increase of efficiency. I refer to the absence of any system for pre-

serving, registering, and utilising for general purposes the larger proportion of the very valuable and instructive specimens shewn. It is true that records of these specimens are published in the "Transactions," and that in many cases further elaborate descriptions of their pathology, &c., may be found in the books in this very complete library: but, in the first place, a description apart from the presence of the object described is frequently difficult to follow; and, in the second, the ideas to which it gives rise, even when fully grasped, are of a subjective character, and are most difficult to project as a distinct image.

The difficulty thus caused is in fact identical with that which confronts all Students of Science, and especially of Medicine, at the outset of and throughout all their work upon subjects which have a practical side. It is the chief difficulty, too, which stands in the way of the Teacher of these subjects in training junior students with minds in the disintegrated and myxœdematous state in which they are in many cases left by the system of cramming with ill-assorted and indigestible facts which is regarded in many schools as excellent preliminary education. The difficulty results from the nature of the complex psychological process involved, and is of a two-fold character. In the first place, in the complex subjective picturing, for the purposes of actual work, of a solid object, from a verbal description, the mind has to deal with three dimensions—length, breadth, and depth,—superposed; has to combine the idea of surface with the idea of substance; to form one picture out of two by a process analogous to the process in the combination of the two pictures presented by a stereoscope. In the second place, the mind has to project externally, as far as possible, the image so formed. Some students never master the first part of the process—they can learn only by rote, by sound, by one sense only. They can treat symptoms but cannot observe signs. Fortunately—as I have seen over and over again—these men have as little power of using their fingers as their eyes, and, therefore, seldom take to any objective study, such as surgery. Many other men never fully acquire a mastery of the second part, for which, indeed, long training and constant practice are requisite, but those who do become adepts in their work, and can alone be said to be masters of it.

In all cases the difficulty and the resulting labour are rendered much less, if not removed, by the presentation of the object described along with the description. Hence comes the advantage of the use of specimens, casts, and models, in lectures and demonstrations on practical subjects; hence the greater attention of the audience, and the greater effect produced; hence, also, the chief use of a museum.

It is a radical mistake to think of a medical museum as a place for the reception of such specimens only as are rare or extraordinary

or of special interest for any reason—as a professional curiosity shop, so to say; and it is no less a mistake to look upon it as a store-house of medical lumber—as a collection of odds and ends merely, —of professional heirlooms and relics, of no use to any one except the donor,—as a pathological pantechnicon, in fact.

I cannot but think that the small use made of museums by medical practitioners is due to a misconception as to their utility, probably dating from student days, and never seriously reconsidered. A museum of anatomy and pathology, especially when located in an isolated position as in Newcastle, should be as useful and as much used as the Medical Library here. It should be, in fact, to the eye and to the hand what literature is to the ear and to the mind; a representation in the solid of the description in the book; an expression in the concrete of the literary idea.

The time has passed by when it was considered sufficient for specimens to be mounted as "pickles," independently and sporadically. The advances of anatomy and of pathology have lead to broader and more extended views.

A museum, I take it, should be what may be called a "type museum;" and should contain, in the first place, a complete series of specimens, casts, and models of normal structures, with appended plans and notes of all essential points of form, size, and structure, and with corresponding histological specimens and drawings; in the second place a similar series of anomalies and abnomalities; and in the third a further systematised collection of morbid and pathological preparations, arranged so that each preparation may be utilised to the utmost in illustration of the origin, progress, and termination of disease, whether general or local.

In such a museum, the surgeon should have ready to his hand all the material he can require to guide him in devising and carrying out his operations and surgical procedures. The physician should be able to see all those details of anatomical relation and pathological change which he needs constantly to keep so vividly before him; and the general practitioner should find a place where he can really at a glance, with the least mental effort and loss of time, keep up and extend his acquaintance with subjects of which the remembrance, though of fundamental importance in scientific medicine, must necessarily be blurred in the rush of practice.

It is for the purpose of pointing out how, in our own district, such an object may be accomplished that I have brought forward this subject to-night.

We have, in Newcastle, an excellent nucleus for a museum at the College of Medicine, formed partly by the exertions of some of the earlier members of the college, and partly from the collection formerly kept in the Royal Infirmary. A good beginning has already been made for its elaboration and development into a more

complete form. I will, therefore, ask your indulgence while I briefly state what has already been done and what yet there remains to do.

First, as regards the anatomical museum, we have made a complete quadruple series of casts of typical Bones for the purpose of shewing each bone together with its borders, surfaces, and muscular and ligamentous attachments, from every point of view. I have found it impossible to obtain a sufficient number of real bones, so nearly similar in size and form, as to answer this purpose. We have made a similar series of casts from the same bones, for the purpose of shewing the shape, extent, and character of the articular ends and cartilages. The structure of each bone will be exhibited by sections in several directions, the mechanism by models, and the development by casts by a collection of the various bones in succession at different ages. In aid of the illustration of the last-named point, I should be glad to receive from members of this society any specimens of embryoes or under-term fœtus which they may be disposed to send.

The Ligaments are represented by a full set of dried preparations made in Paris, and will be further illustrated by a number of others wet and dry, and by casts made in the College. The mechanism and movements will be shewn by diagrams and models.

As regards the Muscles, I have already made a series of casts from the dead subject of the greater number, and am engaged in preparing similar special casts of the parts round the leading joints of the various surgical regions, such as the triangles of the neck, the inguinal region, &c., and of cross sections at different levels of the limbs. These should be of much value to the surgeon, and should also, to some extent, be useful to the physician, as shewing the motor points and the relation of the muscles to the surface. Casts of muscles and of soft parts are, I think, of special value. They are absolutely exact. Being taken without any artificial alteration straight from the dead body, they can be handled with impunity in any position, as the real specimens cannot, and they are permanent. On the completion of this series we propose to take a duplicate series with the vessels and nerves in position.

The Viscera separately, in relation and in section, are well shewn in the magnificent casts from the frozen body made by Professors His and Braune, of which we possess a complete set, besides wet and dry preparations of our own.

The structure of the Brain, as known up to date, is worked out in upwards of twenty models by Professor His; and in a number of dissections now being made at the College. I am also preparing a large complete model to show fully the details of structure, so far as at present known of the spinal cord, medulla, and pons.

A commencement has been made in the illustration of Development by actual preparations of the development of the chick, &c.,

made from eggs hatched in an incubator, by wet preparations of different parts and organs, and by models.

As regards the Pathological Museum, I have remounted and rearranged the whole of this museum on an entirely new, and I think unique plan, which will allow of its indefinite expansion without confusion, and will permit of a result which is of the greatest importance in a museum with limited resources, viz., the full utilisation of every specimen by means of cross references to it under every possible head.

In the first place, the admirable "Nomenclature of Diseases," published by the Royal College of Physicians, has been taken as the basis of classification. In that book, general and local diseases—both surgical and medical—accidents, operations, abnormalities, and parasites, are all tabulated and numbered in a most complete and scientific way, and a minutely detailed index is added. The book forms, in fact, a ready-made skeleton catalogue, requiring only to be filled in. Each specimen in the museum was examined, cleaned or re-mounted, and its number in the old catalogue entered in an interleaved copy of the "Nomenclature" opposite the various titles, under which the specimen might be looked for, and under the corresponding numbers. The history of the specimen was next entered in a new catalogue, forming a magnified "Nomenclature," under the title and number by which its character was best expressed; and the specimen itself, with its title and number painted and varnished on the bottle or support, was placed in a corresponding position on the shelves. The numbers belonging to the other titles under which it might fall were added on the label and in the catalogue. In the latter, under these titles, corresponding cross references were given. Take, for instance, such a specimen as epithelioma of the œsophagus, causing stricture and perforation into the trachea. Its history would be found under the title of epithelioma (that disease being the primary one), and it would be referred to by cross references given to it under the titles of (1) malignant growths; (2) of four diseases of the œsophagus, viz., malignant growths, ulceration, stricture, and perforation; and (3) under two affections of the trachea, viz., compression and perforation. In looking up specimens of any one of these eight affections this preparation would be found.

In this way we have now examined, re-labelled, and catalogued on one plan the whole of the wet and dry specimens, plaster-casts, and wax-models in the museum.

One great advantage which accrues incidentally from the method adopted is this, viz., that we can see from the catalogue not only what we have, but what we have not. To render the museum complete, we have only to fill up the blanks.

It is with an expression of the hope that this Society will aid us in so doing that I conclude this paper; and I venture to think that the visible and permanent form thus given to some of the pathological work of the members would benefit the Society no less than the College.

To one point only would I beg strongly to draw attention, viz., to the importance of the forwarding of a history or notes with specimens sent, or at all events an indication as to where a history may be found. Valuable specimens will otherwise be rendered comparatively useless.

RESULTS OF MAJOR AMPUTATIONS TREATED ANTISEPTICALLY IN THE ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE, DURING THE YEAR 1887,

WITH REMARKS,

By FREDERICK PAGE, Honorary Surgeon to the Royal Infirmary, Newcastle-upon-Tyne; Examiner on Clinical Surgery in the University of Edinburgh; Joint-Lecturer on Clinical Surgery in the University of Durham College of Medicine, at Newcastle-upon-Tyne; Member of the Clinical Society, London.

During the year 1887, as will be seen from the following table, it has been found necessary to perform a major amputation upon 60 different patients, and upon two occasions a double amputation has been resorted to, making the total number of major amputations 62 in number. Of the 60 patients, two only have died = 3·3 per cent.

TABLE I.

Table of Major Amputations treated antiseptically in the Royal Infirmary, Newcastle-upon-Tyne, during the year 1887.

	INJURY.			DISEASE.			TOTAL.
	NO.	R.	D.	NO.	R.	D.	
Double Amputations	2	1	1	..	..	..	2
Hip Joint	..	..	..	1	1	..	1
Thigh	5	4	1	15	15	..	20
Leg	2	2	..	7	7	..	9
Ankle Joint	2	2	..	10	10	..	12
Shoulder Joint	1	1	..	3	3	..	4
Arm	2	2	..	5	5	..	7
Fore Arm	3	3	..	2	2	..	5
	17	15	2	43	43	..	60

PRECISE CAUSE OF DEATH.

1.—Man, aged 36 years, compound fracture of thigh and opposite leg. Thigh and leg amputated; death in two hours from shock and loss of blood.

2.—Man, aged 70 years, compound comminuted fracture of leg. Refused amputation. Gangrene set in at once, and five days after the accident the thigh was amputated, the gangrene at the time of operation having extended to his buttock. Died six weeks after operation from gangrene of the stump and abdomen.

The number of amputations for injury is 17, with two deaths = 11·7 per cent. This is the highest mortality from amputation for injury recorded during the five years the precise cause of death has been given, viz., from January 1st, 1883, to December 31st, 1887. The number of amputations for disease is 43, and every patient recovered, thus, for the first time since January, 1883,

reversing the relative mortality of amputation from disease and injury, which, contrary to usual experience, has, during each of the other four years, been higher for disease than for injury.

The following table gives the number of major amputations performed from January 1st, 1883, to December 31st, 1887.

TABLE II.

Table of Major Amputations treated antiseptically in the Royal Infirmary, Newcastle-upon-Tyne, from January 1st, 1883, to December 31st, 1887—a period of five years.

	INJURY.			DISEASE.			TOTAL.
	NO.	R.	D.	NO.	R.	D.	
Double Amputations	2	1	1	..	..	..	2
Hip Joint	..	..	..	10	7	3	10
Thigh	15	13	2	69	66	3	84
Knee Joint	4	4	..	1	1	..	5
Leg	23	23	..	33	31	2	56
Ankle Joint	14	14	..	40	39	1	54
Shoulder Joint	3	3	..	6	6	..	9
Arm	16	16	..	11	10	1	27
Fore Arm	16	15	1	12	12	..	28
Wrist	7	7	..	..	..	..	7
	100	96	4	182	172	10	282

The number of amputations is considerable, 282, and the number of deaths remarkably small, 14 = 4·9 per cent. As the precise cause of all these fourteen deaths has already been given in previous papers or in this, it is unnecessary for me to recapitulate, but I would draw particular attention to the fact that, on only one occasion during the five years has a patient died from pyœmia. That circumstance, I think, is well worth recording.

In September, 1882, Mr. H. C. Burdett read before the Statistical Society a paper shewing "The relative mortality after amputation of large and small hospitals." Mr. Burdett's statistics extended over a period of twenty years, viz., from 1858 to 1878. The mortality in the 61 small hospitals (from which returns were received) was found to be a little over 17 per cent., and as compared with the mortality in large hospitals, at that time, was very much in favour of the smaller institutions.

The actual number of cases dealt with by Mr. Burdett is 326, with 58 deaths; but there is no case of amputation at the hip recorded, whereas the above table of amputations performed in the Newcastle-upon-Tyne Infirmary, from January, 1883, to December, 1887, includes ten amputations at the hip, with three deaths. It is true that amputations at the ankle and wrist are omitted from Mr. Burdett's tables, as well as at the hip. Excluding amputations at the hip, ankle, and wrist from the Newcastle table, we have 211 major amputations with 10 deaths = 4·7 per cent.

I am not aware that the mortality from amputation in small or cottage hospitals of a later date than Mr. Burdett's—down to 1878—has as yet been published.

It may be found that during the last ten years the mortality in cottage hospitals has diminished, and I certainly think it ought to have done so, for among the 58 deaths recorded by Mr. Burdett, I find five arose from pyœmia, and no less than 26 = 44 per cent. from shock. One of these deaths from shock followed an amputation of the thigh for disease. Twenty-five followed primary amputation. That out of 220 primary amputations, 25 patients should die from shock indicates plainly that there existed no reluctance to amputate in cottage hospitals, but it is hardly a result upon which the institutions can be congratulated.

I regret very much that during the whole time I have recorded the results of major amputations treated antiseptically in the Newcastle-upon-Tyne Infirmary, there is a period of four years and nine months, viz., from April 1st, 1878, to December 31st, 1882, during which the precise cause of each death has not been stated. An accurate record of the actual mortality has, however, been laid before the Society during that period. The following table gives the combined results of the two periods; of that during which a record of the precise cause of death has been given, and of that during which the precise cause of death has not been given.

TABLE III.

Table of Major Amputations treated antiseptically in the Royal Infirmary, Newcastle-upon-Tyne, from April 1st, 1878, to December 31st, 1887, a period of nine years and nine months.

	INJURY.			DISEASE.			TOTAL.
	NO.	R.	D.	NO.	R.	D.	
Double Amputations	2	1	1	..	..	..	2
Hip Joint	..	..	..	12	7	5	12
Thigh	31	24	7	106	100	6	137
Knee Joint	7	6	1	5	5	..	12
Leg	43	39	4	57	55	2	100
Ankle Joint	18	18	..	56	55	1	74
Shoulder Joint	6	6	..	8	8	..	14
Arm	27	25	2	17	16	1	44
Forearm	24	23	1	16	16	..	40
Wrist	7	7	..	..	..	..	7
	165	149	16	277	262	15	442

The number of amputations for injury is 165, with 16 deaths = 9·6 per cent. The number of amputations for disease is 277, with 15 deaths = 5·7 per cent. The total number during the whole period of nine years and nine months is 442, with 31 deaths = 7 per cent.

A mortality of 7 per cent. from major amputations during a period of nine consecutive years and nine months is certainly satisfactory; but when we divide the period into two, the results are still more encouraging; for while the mortality during the first four years and nine months was 10·6 per cent., we find during the second period of five years it has fallen to 4·9, and this notwithstanding the fact that during the later period there were no less than ten amputations at the hip against two in the former.

The mortality from amputation has always been looked upon as a fair criterion of the hygienic condition of an hospital, and when the precise cause of death as well as the actual mortality is given, no better test can be applied. It would be exceedingly interesting to us, who work under the disadvantage which living so far from London entails, to be able to ascertain to what extent patients who suffer amputation at our hands participate in our misfortune, and this could easily be ascertained if someone would take the trouble to give us the actual mortality, and the precise cause of death of every fatal amputation, say in King's College, St. Bartholomew's, and the London Hospital, or in all the Metropolitan Hospitals together for the last five years. We, in the provinces, should be prepared, naturally, to find our results compare unfavourably; but we should also hope, and with some confidence, not to be very far behind our metropolitan brethren.

Sarcoma of Great Sciatic Nerve

NORTHUMBERLAND AND DURHAM
MEDICAL SOCIETY.

SESSION 1887-88.

MARCH MEETING, 1888.

The Last Monthly Meeting of the session was held in the Library of the Newcastle-on-Tyne Royal Infirmary, on the evening of Thursday, March 8th—Dr. Hume (President) in the chair.

ELECTION OF OFFICE-BEARERS.

The President announced that nominations of office-bearers for next session should be now given in to be ballotted for at the September meeting. Dr. Farquharson, Hon. Joint Secretary, did not seek re-election.

SARCOMA OF SCIATIC NERVE.

Dr. Hume: I shew this patient, a young man, 24 years of age, from whose left thigh I have excised a sarcomatous tumour of the great sciatic nerve. The tumour had been growing for about five months, and its removal necessitated resection of the nerve from above the edge of the glutens maximus nearly to the popliteal space. The growth (as is admirably shewn in the illustration) proved to be surrounded by and incorporated with the strands of nerve fibres. The sheath of the nerve was the capsule of the tumour. In minute structure it was composed of spindle cells. The chief interest of the case is in the condition of the limb after the resection of its chief nerve trunk. The patient walks with a scarcely noticeable limp. There is a slightly flail-like action of the foot; otherwise the gait is firm. There is, of course, paralysis of all the muscles supplied by the great sciatic, and there is cutaneous insensibility below the knee, except so far down the back of the leg (supplied by the small sciatic), and along the inside of the leg and foot (supplied by the long saphenous nerve). The ability to walk seems to depend on the extensors of the knee joint, which are innervated by the anterior crural nerve, the limb below the knee merely playing the part of a mechanical support.

Dr. James Drummond: Dr. Hume is to be congratulated upon the result of this operation, but I think that this man's power of locomotion may not be so good six months hence as it is to-night.

Dr. Hume: Some three or four years ago I excised a portion on the internal popliteal nerve for the same disease. That nerve is almost as important, and yet the patient upon whom I then operated walks as well now as he did at the time of the operation. Indeed, at the present moment he is following his occupation regularly as a skilled mechanic in the Elswick Ordnance Works.

Mr. Page: Syme removed three-quarters of an inch of the internal popliteal nerve, and the man from whom this was removed recovered the sensibility of the whole district supplied by the nerve. In a case resembling the one now shewn by Dr. Hume, I amputated the thigh, and the patient did well for over two years; he then had what was called by those in attendance an attack of rheumatic fever, and died of inanition.

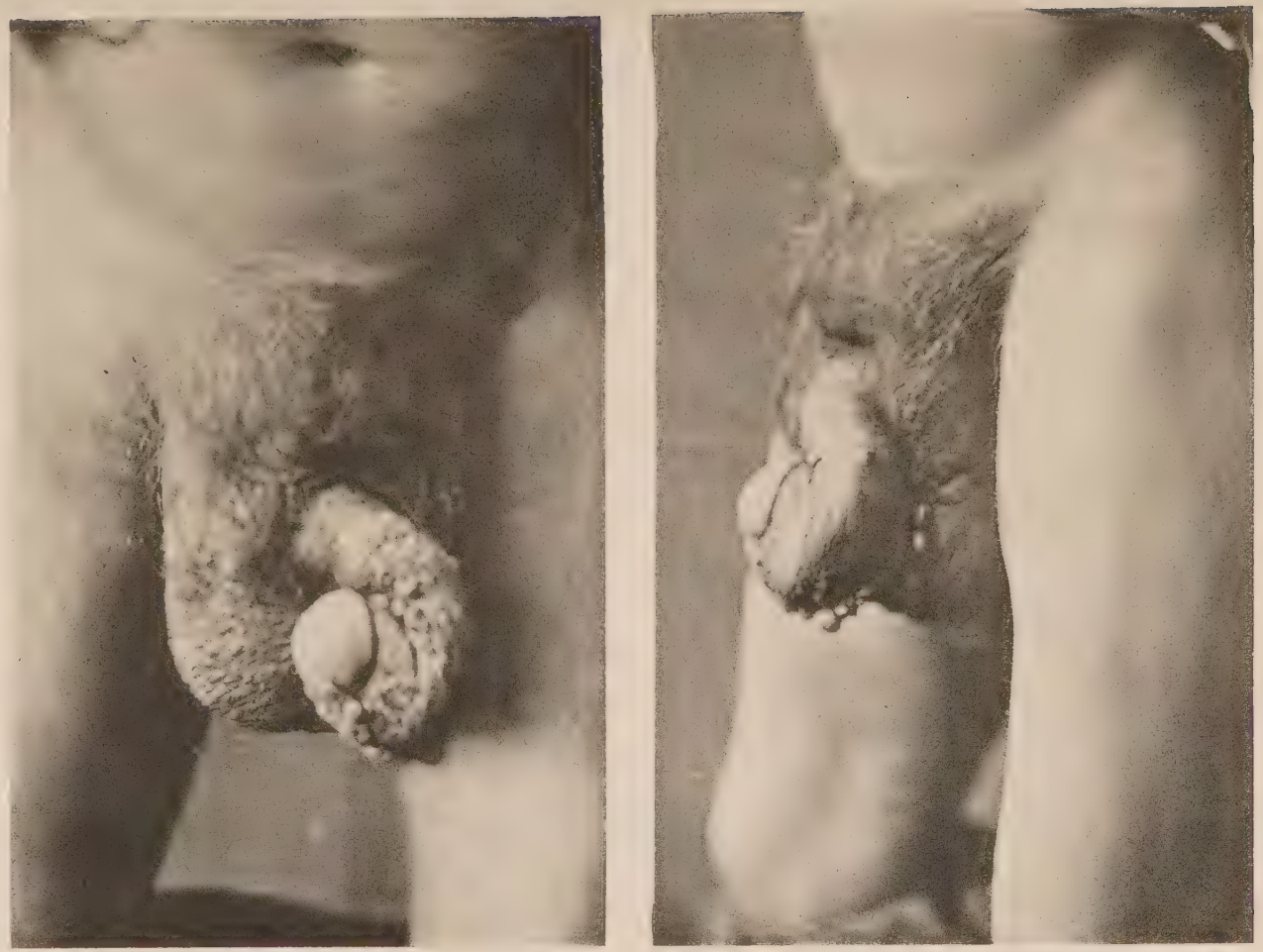
ELEPHANTIASIS OF SCROTUM.

Dr. Prowde: W. H., æt. 58, single, shipwright, admitted into the Sunderland Union Infirmary, June, 1886. Twenty years ago had difficulty in passing urine. Had previously suffered from gonorrhœa. Perineal abscess formed, which was opened. Urine escaped from the wound, and has continued to do so. Fifteen years ago was in the Newcastle-upon-Tyne Infirmary, under Dr. Heath, when instruments were passed. About ten or twelve years ago noticed some swelling of the testicles, and they have continued to increase in size.

He has never resided abroad, and has only been one journey into the Mediterranean. Has severe rigors about once a month, and sometimes as frequently as once a week. There is no hereditary history of elephantiasis. A little urine is passed by the penis. My friend, Dr. Squance, has kindly consented to examine the patient for the filaria sanguinis hominis, and I will give the result at some future meeting. I look upon the patient as suffering from true elephantiasis arabum. I shall be very glad indeed, Mr. President, to receive any advice as to the future treatment of this patient.

Mr. Page: This is a very good example of a disease which is very rare in this country. I would suggest that Dr. Prowde have the case photographed, and that the photo. be reproduced as an illustration in the "Transactions of the Society."

Dr. Hume: I would venture to make one suggestion as to treatment. The patient has had stricture of the urethra for a great many years, and he has also a urinary fistula; further, there is evidence of imperfect emptying of the bladder, as shewn by the



ELEPHANTIASIS OF SCROTUM.

Photo Print.

frequent rigors. I should suggest to drain the bladder from the perinæum, and make it permanent by putting a tube into the urethra at the neck of the prostate, put a tap on the tube, and save the man from urinary fever.

CASE OF CHARCOT'S JOINT DISEASE.

Dr. PROWDE: The patient I intended showing is unfortunately too ill to be present here to-night.

PYOSALPINX.

Dr. COLLIE: On the afternoon of Thursday, the 23rd February, I was asked to see Mrs. A., a married woman, æt. 30. On arrival I found her complaining of pain in the lower part of the abdomen. There was pain on pressure, and slight distension of the abdomen. The temperature was elevated, pulse feeble and somewhat wiry, and tongue furred. She was evidently suffering from shock, but was sensible, and gave me the following history. She had been ailing for eight months; menstruation had been extremely irregular and painful. During the interval between her irregular menstrual periods she had a purulent discharge. Six days before I saw her she had had a rigor, and had been under medical treatment.

Next morning (Friday) the temperature was 101·5, pulse quick and feeble, and general symptoms of collapse more pronounced. On p.v. examination a firm swelling, extremely sensitive to touch, was felt on the right and left of uterus, and apparently continuous with it. Owing to the amount of tenderness present I was unable to make further explorations; and for the same reason the bimanual examination was not accomplished. Next morning (Saturday) I saw her at 2 a.m. in a moribund condition. She died in the course of the day.

As to Diagnosis: Seeing the case, as I did, several days after acute symptoms had set in, with the distinct history of a rigor and no external appearance of a tumour, I looked upon the case as one of acute idiopathic peritonitis. On the second day, after examining the pelvic cavity and finding the collapse increasing, I suspected that either an ovarian cyst or a pyosalpinx had burst in the abdominal cavity. Its extreme rarity precluded the probability of the former; and the fact that I had once seen a case of salpingitis produce a like train of symptoms, impressed me with the idea that pus had escaped into the abdominal cavity from a fallopian tube. This proved correct on *post-mortem*.

Right fallopian tube was distended in the whole length, and at one part had burst.

Left fallopian tube thickened and enlarged.

The right ovary cystic.

Left ovary diseased, probably cystic, and matted by adhesions to omentum.

The left broad ligament had two cysts containing serum, and a little flocculent deposit in the larger.

Although I saw this woman for the first time only 34 hours before she was in a moribund condition, and although even when I saw her first she was in an exceedingly low condition, I regret I did not give her the chance of an abdominal section. Judging from the number of adhesions the *post-mortem* revealed, from the great vascularity of the tissues and the likelihood of a large amount of hæmorrhage, and a necessarily prolonged operation, I very much question whether she would have survived the operation, even although it had been performed on the Thursday evening when I first saw her. But I repeat I regret I did not give her the feeble chance operative interference held out. At first I did not recognise the state of matters, and it was then that valuable time was lost.

Dr. Oliver: I should like to hear from some of the surgeons present about the advisability of performing abdominal sections in such a case as this of Dr. Collie's. I do not think it would have done any good, but it is the treatment now advised.

Mr. Page: Probably Dr. Collie was at a great disadvantage in not recognising the true nature of the case at the first time of seeing it. Is there such a thing as true idiopathetic peritonitis? In my opinion there is always some traumatic cause of peritonitis, and that there is no such thing as peritonitis occurring of itself.

Dr. Oliver: If we take Mr. Page's view that peritonitis is always secondary in its origin to something else, then the abdomen might be opened in all cases.

URINARY CALCULI.

Mr. Page: Of this series of eleven urinary calculi, four specimens were passed spontaneously, and seven were removed from either the bladder or the urethra of male patients. This is a very beautiful calculus, consisting of acicular crystals of oxalate and phosphate of lime, with a small quantity of magnesium, and was passed by a youth some nineteen years of age almost direct from the kidney. It has no appearance of having been detained in the bladder for any length of time. Well-marked symptoms of stone in the kidney, renal colic, bloody urine, frequent desire to pass water, fixed pain and tenderness over the region of the left kidney had existed for four months. The calculus was passed during an attack of renal colic, and while the patient was fully under the influence of tincture of belladonna, prescribed by Dr. William Murray, to whom I am indebted for the specimen. These are characteristic prostatic calculi, a few of many hundreds passed, from time to time, by a well-known clergyman upwards of eighty years of age. They are wonderfully regular in size, shape,

and colour. This is an uncommon stone. It is hollow, and consists of calcium, with a considerable quantity of organic matter. It was passed after having been once arrested in the urethra of a man who had no stricture. This is an interesting specimen. It was passed by a woman two years after I had operated upon her for vesico vaginal fistula. The nucleus is a portion of a silver suture, which, having escaped removal, found its way into the bladder, and then gathered round it the stone you see. This oat-shaped stone, on many occasions, gave rise to retention of urine by becoming impacted in a stricture, from which situation, however, it could always be persuaded to return into the bladder. I ruptured the stricture with Holt's instrument, soon after which the stone was expelled. These stones were permanently lodged in a pouch of the urethra behind a stricture, and were removed by perineal section, the stricture being at the same time divided. The two larger of them are facetted. This calculus, of oxalate of lime, was succesfully removed from the bladder of a robust man twenty years of age, by Bigelow's method of lithotrity, a few months ago. This somewhat large quantity of calculous material, consisting of uric acid and phosphatic matter, was removed from the bladder of a man some fifty years of age, by Bigelow's method last November. Patient had suffered from symptoms of stone for many years, and his kidneys were unsound. He objected to any cutting operation. He left the hospital at Christmas with a fragment of stone in his bladder, but in apparently good health. Soon after the New Year he died, and I have heard no details as to the cause of his death.

This stone has a curious history. It was removed successfully from the bladder of a man aged 32 years by the supra pubic operation, February 7th, 1888, and consists of phosphates around a dark irregular nucleus. Seven years ago, a pitman, then aged 25 years, was walking by the side of the river Wear, when for some freak he placed a pebble from the bed of the river in his urethra, and manipulated it into his bladder, where it remained till February 7th, 1888.

This uric acid calculus, coated with phosphates, was successfully removed by the supra pubic method, February 28th, 1888, from the bladder of a child aged 5 years.

This large oxalate of limestone was successfully removed from the bladder of a man aged 23 years, February 29th, 1888, also by the supra pubic method.

As a substitute for lateral lithotomy the supra pubic operation is still *sub judice*, but it is somewhat significant, I think, the number of cases of stone in the bladder treated by the high operation which have been brought forward here during the last two years, and the very small number treated by lateral lithotomy.

Salivary calculi.—This large concretion was found imbedded in the sublingual duct of a man, in the process of removing his tongue for malignant disease; and these facetted calculi were readily removed, also from the sublingual duct, of an aged man who was in all other respects in good health.

SUPRA-PUBIC LITHOTOMY.

Dr. Jas. Drummond: The calculi which I have the honour of bringing before the Society were removed from a man 77 years of age. He had passed small stones or "gravel" to the number of 15 (which I here shew you) during the last 20 years by the urethra. He had been under the care of another medical man for three years previous to my first seeing him, but as no instrument had ever been passed into his bladder, stone in the bladder could not have been diagnosed. He was suffering intense pain, and, having to pass water every few minutes, his strength was fast wearing out. Having passed a sound, I diagnosed several calculi in the bladder, this organ being greatly sacculated and thickened from chronic cystitis. Owing to great enlargement of the prostate and the condition of the bladder I decided that supra-pubic lithotomy would be the best means of operation. The patient readily assented to anything that might be done to relieve his suffering. The operation was carried out in the manner recommended by Sir H. Thompson. Petersen's bag was used in the rectum, and the bladder injected with 8 ounces of boracic fluid. The operation was simply and easily performed, and no attempt was made to close the wound. Thompson's tube was inserted for drainage, and the wound dressed with iodoform and salicylic wool. Five calculi, weighing in all about an ounce, were removed.

Considerable difficulty was experienced in removing the smallest stone, it having found its way into one of the ureters, which had become much dilated, and could only be felt with the tip of the little finger in the ureter. It was, however, removed by means of a long pair of dressing forceps. From the sacculated state of the bladder I doubt if all the stones could have been removed if the ordinary median or lateral operation had been performed. The patient made a wonderful recovery from the chloroform and from the effects of the operation. A week after the operation his temperature was normal, and he was able to pass some urine by the natural channel, but his urine remained very scanty, and strongly ammoniacal, as it had been previous to the operation; indeed, his kidneys, which were very much diseased, never recovered their normal function, and the patient gradually sank under the uræmic poisoning, and died from exhaustion fourteen days after the operation. The wound by this time was nearly healed, and the patient expressed gratitude for the relief that he had obtained.

Dr. Anderson: Dr. Drummond's case seems to me to be a case in which the supra-pubic method was certainly admissable, because of the presence of one of the stones in the ureter; but had he gone in for the operation by the lateral method, and drained the wound by a large drainage tube, he would better have cured the cystitis, and have exposed his patient to less danger from uræmic poisoning. The enlarged prostate was no obstacle in the way of the lateral operation.

Mr. Page's case is certainly the best I have seen of his, but I am glad to hear that he now says there is a better place to drain these cases than by the supra-pubic wound, viz., by a soft catheter in the urethra. What was the size of the catheter used?

Speaking of the curiosities that sometimes find their way into the female bladder, it has fallen to my experience to remove from that viscus a no less singular body than a parasol top.

Mr. Page: The size of the catheter used was just as large as we could possibly pass. The great point to aim at is to keep the bladder absolutely empty.

KNEE-JOINT—HEAD AND UPPER PART OF SHAFT OF FEMUR, FROM A CASE OF CHARCOT'S JOINT DISEASE, TOGETHER WITH NOTES AND PHOTOGRAPHS.

Dr. Prowde: J. C., æt. 62, a puddler, married, was admitted into the Sunderland Union Infirmary, April 3rd, 1882. Says that he has worked hard, and been a "free liver." Has never suffered from syphilis. No hereditary history of rheumatism or joint disease. Has enjoyed good health until shortly before his present illness, eight years ago. Says that he had an attack of *rheumatic fever (?)*. After his recovery, he noticed that he had a difficulty in walking. Legs flew from him. Inclination to fall. Feeling of constriction round the waist. Diminution of sight, &c.

About one year after this he was admitted into the Sunderland Infirmary with a "bad ankle." Mr. Whitehouse (who was then House Surgeon) informs me that he was at that time suffering from locomotor ataxia. Soon after his discharge from that institution he was seized (when at work) with sudden pain in the right knee, was unable to walk, and never again able to work. There was much swelling and dislocation of the tibia and fibula, backwards and outwards, noticed shortly afterwards. The swelling subsided a little, but soon the head of the tibia began to increase in size, and continued to do so until about two years before his death. During this time, the "lightning pains" had been most excruciating in the joint. These now subsided considerably. He was able to move about the wards on crutches, and this photograph gives a faithful representation of the knee and leg at such a time. The dislocation became gradually more pronounced.

About two years after admission he was seized with sudden pain in the left hip, and shortly afterwards he found he was able to dislocate his hip at will, and without much pain. The trochanter gradually increased in size, as the photograph somewhat indistinctly shows. He was able to move about until one year before his death. About this time, and when thus moving about, he was seized with violent pain, and there was "*a crack like that of a pistol.*" He was put to bed. There was great ecchymosis and effusion. When these had subsided, it was then found that the trochanter appeared larger, and more out of position. Was this the time when the head of the femur became detached, or was there fracture from the first?

Two or three months before death, the pain in the hip and leg was most excruciating, and could scarcely be relieved by opiates. He died, exhausted, December 24th, 1887. No other joints appeared affected except the right elbow joint. An abscess formed on the inner-side, and left a slight enlargement. The pulpy part of the end of the second finger of right hand was much enlarged, and consisted of a peculiar warty growth.

Mr. President, it would have afforded me the greatest pleasure to have placed before you the brain and spinal cord of this patient, as well as these specimens. These, however, I was unable to obtain, and must content myself with placing before you and the members of the society the following interesting specimens:—

(a.) Right Knee-joint. — Much enlarged with dislocation backwards and outwards of the tibia and fibula. The tissues surrounding the joint feel on cutting as though they were being transformed into bone. On the under surface of the joint are seen three small and somewhat rounded pieces of bone, which appear to be growing from the under surface of the inner condyle of the femur.

On cutting through the ligamentum patella (which is much thickened) and opening into the joint, the bones are found to be denuded of cartilage.

Under the upper and inner side of the patella is a large rounded piece of bone, which is entirely free. Bony growths are noticed on the under surface of the patella, and from many parts of the articular surfaces of the bones forming the joint.

The anterior crucial ligaments are ruptured, and what remains of them appears nearly ossified. The posterior remain intact. The head of the tibia is much enlarged; not only is the cartilage absorbed, but the external articular surface also. The internal remains, but is quite movable. Part of internal condyle had an ivory appearance.

(b.) The head of left femur was found devoid of cartilage in the acetabulum attached by the ligamentum teres, but not connected

in any way with the femur. It presents nothing abnormal, except slight absorption of bone around insertion of lig. teres.

(c.) Upper part of shaft of left femur much enlarged, especially the great trochanter. The "neck" is entirely absorbed, a somewhat smooth surface only remaining. There are one or two bony outgrowths. From the inner side of the great trochanter is a peculiar warty growth, and close to this is one of the bony formations.

At the January meeting of the London Pathological Society, Dr. Collier showed a knee-joint which corresponds with the above, so far as absorption of cartilage, loss of crucial ligaments, and great increase of size of head of tibia is concerned, but not in other respects; nor did any other joint appear to be affected. This is the first joint that I have dissected, and I have thereby little personal knowledge of the morbid anatomy of this disease, but shall be glad to learn from others who are more familiar with it.

Dr. Oliver: This is the first time, Mr. President, that the members of this society have had exhibited to them a so-called Charcot's joint. Dr. Murphy and I were the first to bring under the notice of members of this Society patients who were the subjects of Charcot's joint disease, and in whom, at the same time, locomotor ataxia was present. At our last meeting, too, Dr. Limont exhibited a young man in whom the disease was of very recent date and of acute formation, and it has therefore fallen to Dr. Prowde to be the first to show that extremely disorganized state of the joints which is met with in these cases. I regard the specimen as one of very great pathological value—and one which I hope Dr. Prowde will give us for the museum of the College of Medicine. When I exhibited my case of Charcot's joint disease—a woman—the rest were men, I expressed the opinion that the diseased joint had certain special features which separated it from other joint affections, particularly those of a rheumatic origin. But whilst this opinion was contradicted, if not then, later on, I see no reason now for altering it. The disease is of tabetic origin, and we differ in treating it from osteo asthostis of rheumatic origin from the rapidity of its development, the acuteness of the swelling, the comparative absence of pain, and the rapid disorganization of the joint. In a few days a joint which has been apparently healthy is so completely disorganized that you can move it about in all directions like an ordinary flail; all this, too, without the least pain to the patient. No such thing occurs in rheumatic asthostis. Even admitting the spinal origin of rheumatism, this is different to anything we get in rheumatic asthostis. I don't accept the teaching that this joint disease, which bears the name of the great Frenchman, depends upon disease of the large multipolar cells in the anterior conna of the spinal cord, but I do think that it is intimately bound up, in some way or other, with the changes in the spinal

cord which are either associated with or dependent upon locomotor ataxia. From the fact that the joint disease is often noticed before the ataxic symptoms are present, the disease in the joint therefore cannot own for its cause the disorderly throwing about of the limbs, and the irregularly pulling about of the muscles upon the muscles which ataxics so often do. There is a greater attempt at the development of new bone in the joint exhibited by Dr. Prowde than what is said to occur in these cases, but this, though it suggests a rheumatic origin, coupled, too, with the history of a greater amount of pain than is generally present, does not absolutely take it out of the category of tabetic arthropathies—diseased stabs. I firmly believe in the relationships, which I cannot but acknowledge.

THORACIC ANEURISMS WHICH BURST INTO PLEURAL CAVITY.

Dr. Oliver: The attention of members is drawn to the seat of the aneurism, it being located in the lowest third of the descending portion of the thoracic aorta. The patient had been a shoemaker, and for several months had suffered from severe pain at mid-back, unrelieved by treatment. When admitted, his one complaint was pain over dorsal spine; there was a localised area of dulness, but no pulsation or bruit. Hæmoptysis occurred from time to time, a symptom which confirmed our diagnosis of aneurism.

Dr. James Drummond: Thos. Whitford, æt. 35, seaman. Has always had good health until three days before death. First complained of "tightness at the chest," which continued three days, but not severe enough to induce him to seek medical advice. On March 3rd, 1888, he suddenly lost consciousness, and died an hour later. At a *post-mortem* made 48 hours after death, there was noticed a slight bulging at the sternal ends of the third and fourth ribs, with dull note on percussion over nearly the whole of the left side. On separating and raising the sternum, a large blood clot was found occupying the left cavity of the chest. The sternum, second, third, and fourth ribs were greatly eroded, and formed the anterior wall of a large aneurism. On removing the heart and lungs intact from the chest, it was found to be an aneurism of the ascending part of the aorta, and to have ruptured at a place just under the cartilage of the third rib. The pericardium was firmly adherent to the heart, which was greatly hypertrophied in all its parts. The auricles are both dilated; the auricular valves both incompetent, especially that of the left auricle, which almost forms one cavity with the left ventricle. There is also an opening from the aneurism into the left auricle. All the other organs were healthy, and the man was very well developed and muscular.

TUBERCLE OF THE LARYNX.

By CHAS. L. LIGHTFOOT, M.D., &c.

Mr. President and Gentlemen,—

In introducing to your notice to-night the subject of tubercle of the larynx, I do not propose to enter into the subjective symptoms or laryngoscopic appearances which are commonly met with in that disease, but rather to say a few words on the etiology and pathology of the disease, and more particularly to bring before your notice the most modern forms of treatment which are at present in use. And I do not think I can do better than quote the definition of the disease given by Sir Morell Mackenzie, viz.:—

"A chronic affection of the larynx attended by tumefaction and ulceration of the softer structures, and frequently by perichondritis and caries of the cartilages, arising from the local deposit of tubercle, *which, as far as experience goes, is invariably preceded by a similar disease of the lungs.*"

This was written eight or nine years ago, and since that time cases have been put on record which would require the latter part to be modified. It has for a long time been a debated point whether tubercle of the larynx may occur primarily, and I do not think that as yet this point has been yet determined, which may be due to the fact that patients do not die from tubercle of the larynx—at least in its earlier stages—and on that account there are no opportunities of *post-mortem* examination. Hunter Mackenzie, in the "Edinburgh Medical Journal, and Journal of Laryngology," states that cases of primary tubercular disease of the larynx are on record, but the only case which he brings forward in support of this statement is one recorded by Demme of a child, aged $4\frac{1}{2}$, who, on *post-mortem* examination, was found to have a deposit of tubercle in the larynx, and the thoracic and abdominal organs healthy. Dr. Mackenzie does not, however, state that the cause of death was tubercular meningitis, which omission is, I think, one which affects his argument very much. Other cases in which the larynx was the seat of tubercle while the lungs were healthy have been recorded by Morel-Lavallée, Djerin, and other authors; however, in none of their cases was any *post-mortem* examination made, but the diagnosis was made during life, the lungs and other organs being carefully examined, but at the same time small deposits of tubercle may be present in the lungs, &c., which would be unrecognisable by the most careful physical examination.

Mackenzie also records a case of simple chronic laryngitis of long standing which became tubercular. The patient was a healthy man with no predisposition to tubercle.—(*Edinburgh Medical Journal*, Jan., 1887). In this case, however, we are

rather left in the dark as to the result of the examination of the patient's chest. He is stated to have become phthisical, but whether the lungs or the larynx were first affected seems rather uncertain. This is of importance, as phthisical people often suffer very severely from a simple catarrhal form of chronic laryngitis, which is often most severe when the disease of the lungs is stationary, but, when the latter becomes active, either disappears or is replaced by the tubercular form. I think, however, that there is now a sufficient number of cases on record to warrant the assertion that tubercle of the larynx may occur without the lungs being affected, and as time goes on more and more of such cases will be put on record. Whether we may have a deposit of tubercle occurring primarily in the larynx is a question which has not yet received a definite answer. For my own part I think we may, but I shall refer again to this point.

With regard to the number of undoubtedly phthisical patients who suffer from tubercle of the larynx, the proportion has been variously estimated. Morell Mackenzie and Heinze estimated it at from 30 to 33 per cent., while Schäffer, who examined the throats of all patients who presented themselves with pulmonary disease, found the larynx healthy in only 8 out of 310 cases, or in other words, 97½ per cent. had the larynx affected. The average age at which the disease manifests itself seems to be 25 to 35. It is rare in children. Males are more often attacked than females, the proportion being 2 to 1—this probably due to the effect of tobacco smoke and alcohol in the former, as well as the nature of their employment. I shall now say a few words on the etiology and pathology of the disease.

One of the first views as to its causation was that which is known as the French. It was brought forward by Louis, who held that the disease of the larynx was due to the irritation and infection of the laryngeal mucous membrane by the passage over it of the sputum from decomposing pulmonary cavities. This explanation, which I need hardly say was advanced long before the days of the tubercle bacillus, was received with a good deal of opposition, more especially from the German school, who pointed out that the disease did not begin as a superficial irritation or ulceration of the mucous membrane, but rather as an infiltration and subsequent ulceration, which they held would not occur if the disease commenced on the mucous surface. They showed that the disease commenced as an infiltration in the submucous tissue, and that the ulceration was due to the tissues over this infiltration gradually giving way from the continued pressure exerted on them.

Since the discovery of the tubercle bacillus, the direct infection theory has been revived, the fact of the infiltration occurring in the submucous layer being due to the penetrating power of the bacillus, this being aided in those cases where the mucous mem-

brane is eroded, as it often is in phthisis either from the coughing or from one of the ordinary forms of catarrh of the larynx which are so common. This explanation is certainly very good in cases where the lungs are affected, but where they are healthy then we must look for some other, and I am inclined to look upon tubercle as more or less of a constitutional disease developing in one position—it may be the lungs, intestines, brain, or elsewhere—and the infection being conveyed to other situations by the lymphatics, thus setting up secondary foci of disease and in this way resembling malignant tumours. In many cases where the lungs are pretty extensively diseased I think that direct infection takes place, but in others, where the pulmonary affection may be slight or wanting, then I think a deposit of tubercle occurs in the larynx, owing to a general affection of the system, and perhaps from some antecedent catarrh the power of resistance being lessened in the laryngeal mucous membrane, it thus becomes a suitable nidus for the deposit and development of tubercles. This theory not only accounts for those cases in which the lungs are healthy, but is borne out to some extent by the microscopic appearances.

According to Heinze, who has made the most recent researches into the pathology of this affection, the first stage of tubercular laryngitis consists of infiltration, usually at one point, rarely at more. The most common situations are the ventricular bands and ary-epiglottis folds, the mucous membrane covering the arytenoids, the cords themselves, and much more rarely the epiglottis—the latter being seldom affected alone but generally in conjunction with some other part. The mucous membrane covering the arytenoids and the ventricular bands are perhaps the two most common situations.

Microscopically this infiltration is seen to be due to deposits of small cells in the sub-epithelial and sub-mucous layers, between these cells in which they are imbedded there is a reticulum and in places these cells are collected into circumscribed patches some of which contain giant cells and also the tubercle bacilli. These collections are most frequently situated in the superficial portion of the mucous layer, immediately below the epithelium—which latter however preserves its normal appearance. In some cases there is a distinct zone of healthy tissue between the epithelium and the deposit of tubercle which contains no tubercular deposit but a large amount of capillaries and a few small cells—thus proving that the disease commences in the deeper parts and invades the surface.

Changes are also found in the vessels and lymphatics, which, I think, lends some support to the theory of the infection being conveyed by those channels. On transverse section of the vessels an accumulation of small cells is seen round them, partly surrounding

the adventitia and partly embedded in its fibres, being in the region of the perivascular lymphatics. Also, we not infrequently find a vessel, generally an artery, situated in the centre of a mass of tubercle, with its adventitia destroyed, and only the muscular and endothelial coats remaining.

The mucous glands may be affected either primarily or secondarily by the extension of the tubercular deposit, when the acini become separated by the deposit of small cells, which compress and gradually destroy them. When the the glands are affected primarily the cell deposit may take place either around the acini or in the gland itself, which becomes destroyed and converted into a granular mass of small cells. The *tubercular deposit* is seldom found in the laryngeal muscles, when it is, it attacks the contractile substance which becomes destroyed and is replaced by a mass of small cells. *The cartilages* may be affected by the deposit taking place beneath the perichondrium, which is thus separated from the cartilage, the latter in this way necroses, and may be detached, so causing serious alterations in the framework of the larynx, and even suffocation from the impaction of a piece of cartilage.

The epithelium often remains unaltered, even when there is a considerable amount of tubercular deposit but when its deeper layers are affected it becomes sodden and raised up from the subjacent parts, perforation then takes place, and a deep crater-like ulcer is formed by the tubercle deposit becoming softened and separated. The edges of these ulcers are thickened and overhanging, and in them and in the base deposits of tubercle are to be found together with giant cells and bacilli.

In other cases the tubercle deposits are small in size and numerous when they give rise to many small ulcers, which have received the name of erosive or catarrhal ulcers, these are very often found on the ventricular bands. Some authorities deny that they are of a tubercular nature, but assert that they are merely catarrhal. Other authorities, on the other hand, affirm that deep ulceration is rare, but that these numerous and small ulcers are distinguishing features in tubercular laryngitis.

Treatment.—I do not propose to dwell on the climatic or general treatment of the disease, which resolves itself into that of tubercle of the lungs, but rather to draw your attention to the latest—and I trust I may add the most successful—forms of local treatment. These are either purely medicinal, a combination of surgical and medicinal, or purely surgical. I will first describe what is known as the lactic acid treatment.

I. Krause, of Berlin (who is now with the Crown Prince), in a paper published in 1885, advocated the use in tubercle of the larynx of a solution of lactic acid, varying in strength from 20 to 30 per cent., the most useful being 40 per cent. These solutions should be applied to the diseased parts of the larynx by means

of brushes or sponges. These applications should at first be made daily, and of course under the guidance of the laryngeal mirror. Krause stated that the results he obtained by this method were excellent, and that few ulcers did not yield to this treatment. Any pain which the application might cause may be avoided by the previous use of cocaine, the amount of laryngeal spasm is small. Lactic acid is a very powerful remedy, and if its use be long continued, may cause the health of the patient to suffer. Its advocates moreover state that it only attacks diseased tissues and has no effect on healthy ones, this statement I cannot accept, as I have seen extensive sloughing, and ulceration follow its use.

This method of treatment has still some followers, but the following modifications by Hering of Warsaw is now generally preferred, even by Krause himself.

II. *Hering of Warsaw*, who had followed for some time the treatment by lactic acid, came to the conclusion that this agent was entirely useless in the infiltrative stage of the disease, but when ulceration existed it seemed to do good. On this account he introduced the use of the curette before applying the acid.

At the meeting, in Berlin, of German naturalists and physicians, in 1887, he produced specimens shewing the cicatrization of tubercular ulcers which he had treated by curetting and lactic acid, and stated that in 27 out of 35 cases the results had been most satisfactory. The following is a description of his method, taken from his book :—

(*a.*) In the earlier stages of the disease, injections into the infiltrated tissue of 10 to 20 per cent. solutions of lactic acid should be used. These injections are, of course, made with a special instrument.

(*b.*) During the stage of softening of the infiltrated parts, deep incisions should be made into the affected areas with a laryngeal knife, or they should be extirpated by means of curettes, guillotines, forceps, and other suitable instruments which he figures in his book. After this operation the lactic acid is applied in the same way as recommended by Krause.

This method he also advocates in tubercular swelling of the posterior walls of the larynx and in ulcers with thickened edges.

Hering contends that, as tubercular disease of external parts is always treated by surgical means, the same should be done when the disease occurs in the larynx. The above form of treatment has received the support of Pottsteen, Schmidt, Lennox, Browne, and others.

The objection perhaps to the lactic acid treatment is that the remedy is essentially a local one. The ulcer certainly to which it is applied may yield and become healed, but the general condition is unaltered. This was well shewn in some of the specimens

exhibited by Hering. The diseased portions to which the treatment had been directed had healed, but there were other and finer points in the same larynx, which were proved to be tubercular on microscopic examination by Virchow.

It is also a method which requires a considerable amount of manual dexterity and practice to carry it out efficiently, the mere brushing the larynx with some solution being a simple matter, but the scraping of diseased surfaces with a curette, or incising them with a knife, is an operation which requires a very considerable amount of time and practice before it can be successfully accomplished.

III. *Menthol.*—This method of treatment was brought into notice some two or more years ago by Professor Rosenberg, of Berlin, who strongly advocated its use both in laryngeal and pulmonary phthisis, chiefly on the grounds that he has found its vapour to be fatal to the tubercle bacillus. This he has satisfied himself of, both with experiments on artificial cultures and also by examining the sputum in tubercular cases which are being treated with menthol. He quotes the case of a gentleman suffering from both laryngeal and pulmonary phthisis who was treated in this way, and was so well at the end of a year that his life was accepted by an insurance company as a good risk.

The method of using this remedy is a very simple one, and is, I think, within the reach of anyone who uses a laryngoscope, but who perhaps does not care to venture on endo-laryngeal operations. It consists of the injection into the larynx of a 20 per cent. solution of menthol in olive oil, this is done with an ordinary laryngeal syringe. It is well to commence with 10 or 15 minims of this solution and gradually increase the dose until as much as a drachm is given at one sitting, although this dose may be injected at twice, these injections should at first be made daily, or even twice a day, but after a few weeks at longer intervals, and must of course be made under the guidance of the laryngeal mirror. The spasm produced is, as a rule, slight, and I have never found it worse than that which may be set up by simply brushing the larynx with some solution, it can be overcome by making the patient take a deep breath, or say 1, 2, 3.

I have recently had the opportunity of watching the effects of this remedy in a number of cases and am strongly impressed with its efficacy, patients most certainly improving under its use both with regard to their laryngeal and pulmonary symptoms. This remedy is still on its trial, and it would be premature to say that we can cure the disease, but certainly the results as far as we have gone are most encouraging, and I am strongly of opinion that it will only be by the direct application of some remedy that we will ever be able to arrest the ravages of phthisis, either laryngeal or pulmonary.

At the same time as the injections it is advisable that the patient should inhale some of the menthol solution, either dropped on a piece of cotton wool or some other kind of respirator, or else 15 or 20 minims in a pint of steaming water.

The above methods of treatment are the latest and the most efficient that we have. The appliances which have been brought forward in the shape of powders and solutions are numerous. Morphia has many supporters, especially when there is ulceration accompanied by pain, it is generally insufflated. Mackenzie recommends one-eighth of a grain, diluted with starch, to be insufflated twice a day, the dose being increased to a quarter or half grain. Iodoform, iodol, boracic acid, and many others have all been used with more or less benefit by their various advocates. Solutions of nitrate of silver, acetate of lead, creosote, carbolic acid, boracic acid, corrosive sublimate, iodine, and iodide of potass have also been tried, but I do not think that the benefit, if any, has been more than temporary. The same may be said with regard to steam inhalations—inhalations of the vapour of volatile substances, such as pine oil, tinct. benzoin co., &c.

In last month's "Journal of Laryngotomy," Dr. Ege, of Pennsylvania, U.S., brings forward a new form of treatment, which seems to be related to the rectal injection of sulphuretted hydrogen gas in phthisis. The therapeutic agent is the white of an egg, diluted with six or eight ounces of water, and allowed to stand for three to eight days, until it acquires a "penetrating, disagreeable" odour, when the patient inhales it in the form of a spray. The author states he has used it in 29 cases, and in a large majority of these the result has been very satisfactory.

Tracheotomy is advocated by some surgeons as the only cure for laryngeal phthisis; but I will not detain you by entering into the merits or demerits of the operation. Suffice it to say that in cases where the infiltration is so extensive as to interfere with the free passage of air through the glottis, and the lungs are suffering from aerial starvation, I have seen tracheotomy performed with great benefit.

Schmidt recommends deep incision with special instrument.

Schäffer recommends destruction of granulation, &c., with galvano-cautery.

NOTES ON A CASE OF IMPERFORATE HYMEN.

By THOMAS OLIVER, M.D., M.R.C.P., Physician to the Royal Infirmary, Newcastle-upon-Tyne.

Jane E., a domestic servant, aged 18, was brought to my out-patient department of this hospital, complaining of a swelling of the abdomen, of pain over the epigastric region, and of never having menstruated. She had suffered much from headache and from the usual abdominal symptoms preliminary to the menstrual flow. There is a good family history. She is a strong, healthy-looking, well-developed girl. Her temperature, pulse, tongue and bowels were normal; the mammæ are well-developed, although the nipples are small. Heart: sounds are healthy, the aortic second is reduplicated. Abdomen: There was noticed, on admission, very marked projection of the lower two-thirds in the middle line; the swelling was globular in shape, extended two inches above the umbilicus, was of firm consistence, elastic, painless to the touch, dull on percussion, and not very freely movable. It measured, from pubis to upper border, $8\frac{1}{2}$ inches; transversely in its uppermost third, 8 inches; transversely in its lowest third, $4\frac{1}{2}$ inches; whilst the girth of abdomen at the umbilicus was $28\frac{1}{2}$ inches. Liver and spleen presented nothing abnormal. Vaginal examination: the labia were well developed. Projecting through them was seen a tumid mass of soft consistence, somewhat bluish in colour, as seen through the transparent membrane which limited it. This membrane completely occluded the vaginal orifice, and was evidently an unruptured or imperforate hymen. Pressure made by the hand placed over the tumour above the umbilicus, increased bulging through the labia. By means of a straight bistoury a small incision was made under the spray through the vaginal swelling at the most dependent part, and immediately a stream of very thin black liquid escaped. A small drainage tube was inserted, and iodoform and oakum dressings were applied. The fluid which escaped had a specific gravity of 1023, was neutral, and under the microscope was found to be composed of myriads of broken down red blood cells, numerous white cells like ordinary leucocytes, a few coloured corpuscles thrice the size of blood globules, and a few still larger cells with a distinct nucleus and vacuole. After several pints of this dark fluid had escaped—a process which extended over several days—the remains of the hymen were removed by means of curved scissors. A well developed *cervix uteri* with patent *os* could be felt by the finger passed into the vagina. Patient made an excellent recovery, and has menstruated regularly and in a healthy manner twice or thrice since the operation. The temperature never rose from the date on which the hymen was

divided, thus, one of the dangers so frequently met with in those cases, viz., septicaemia, fortunately never arose. This is the second case of imperforate hymen which has recently come under my care. The first, a far more complicated case, Mr. Page operated upon, and had to make what had, up till then been absent, a vagina. That patient, too, did well, but about eighteen months or two years afterwards she died of consumption.

THREE CASES OF STONE IN THE BLADDER SUCCESSFULLY TREATED BY SUPRA-PUBIC LITHOTOMY.

By FREDERICK PAGE, Surgeon to the Royal Infirmary, Newcastle-upon-Tyne; Examiner on Clinical Surgery, Edinburgh University; Joint Lecturer on Clinical Surgery, University of Durham; and Member of the Clinical Society, London.

Seven years ago, a Durham pitman, then aged 25 years, took from the bed of the river Wear a pebble, which he introduced into his urethra, and succeeded in forcing into his bladder. He seems to have suffered but little inconvenience till four months ago, when urgent symptoms of stone in the bladder reminded him of his folly. On admission, January 30th, 1888, he was suffering a good deal physically and mentally. On February 7th, supra-pubic lithotomy was performed, and a round phosphatic stone, the size of a thrush's egg, removed. Petersen's bag was used, and the bladder distended with warm boracic lotion. The wound was closed with a continuous catgut suture, a drainage tube being introduced at its lowest part between the separated muscle, but not into the bladder. The bladder was not sutured. A soft catheter was retained in the bladder for four days. After the fifth day the catheter was passed at lengthening intervals, for eight days. On the twelfth day patient passed, by the urethra, ten ounces of urine, none escaping by the wound, shewing that the bladder incision was healed. But very little urine escaped through the wound at any time, shewing that the bladder was effectually drained by the catheter. The nucleus of the calculus was found to be a piece of rough stone (about the size of a horse bean), so hard that a section of it could not be made with the saw. The man suffered hardly any inconvenience from the operation, and the whole of the wound, with the exception of the tract of the drainage tube (which closed on the tenth day), healed by first intention.

A boy, aged six years, admitted February 25th, 1888, with symptoms of stone in the bladder of two years' duration. On February 28th a uric acid stone, coated with phosphates, the size of a cob-nut, was removed by supra-pubic lithotomy. The wound was closed with a catgut suture, a small drainage tube being inserted at its lower angle, down but not into the bladder. A soft rubber catheter was secured in the bladder. No urine escaped through the wound till the fourth day, when the catheter becoming blocked for a short time, some found its way through the drainage tube. On the seventh day the catheter was removed, in consequence of its causing pain. Urine then escaped from the wound for one day. On the eighth day after operation the child passed urine naturally, no urine passing from the wound again. The

tract of the drainage tube closed on the tenth day, the rest of the incision having healed by first intention.

A Northumberland pitman, aged 23 years, admitted February 27th, 1888, with symptoms of stone of two years' duration. Supra-pubic lithotomy was performed February 29th, and an oxalate of lime calculus, the size, shape, and colour of a large Spanish chestnut, removed. A full-sized rubber catheter was secured in the bladder, and the wound closed and drained as in the other cases. The catheter was removed on the sixth day. Some, but very little, urine escaped through the drainage tube daily till the ninth day, when patient passed at one time nine ounces of water, after which none passed from the wound. The tract of the drainage tube closed on the thirteenth day, the rest of the incision having healed by first intention.

It must, I think, be admitted that in cutting into the bladder above the pubes fewer important structures are liable to be wounded than in lateral lithotomy. It cannot be denied that the supra-pubic incisiou is more direct and less extensive than the lateral. These are certainly reasons for preferring the high operation. The three cases reported above could not have done better had they been treated by lateral lithotomy; and it seems to me, if supra-pubic lithotomy should be found, as time goes on, to be as safe as lateral lithotomy, the question of which operation is the better must be solved in favour of the obviously more direct method. The points to be attended to in the after treatment of a case of supra-pubic lithotomy are, I think, to keep the bladder empty by means of a rubber catheter, and to provide for the direct escape of urine from the wound through a drainage tube till the cut in the bladder has healed, and the cicatrice is strong enough to resist the pressnre of urine in the full or partially distended bladder. If these principles can be carried out, I should expect to find supra-pubic supplanting lateral lithotomy.

ON CHLOROANÆMIA.

By F. C. COLEY, M.D., Physician to the Northern Counties Hospital for Chest Diseases, Newcastle-on-Tyne.

Some time ago I saw reported in the *British Medical Journal* a lecture on the "Inadequate Treatment of Chlorosis." And this struck me as a very suggestive title, for I find that a very large proportion of the cases of chlorosis that I see, both in hospital and private practice, have been under treatment before. And such patients always tell me that they derived more or less benefit from the treatment which had been made use of by the practitioner who had charge of them before me, but that all their symptoms returned soon after they had given up the use of remedies. In a large number of instances this is the mere result of the patient's own negligence. Content with a partial restoration to health, she will not be troubled with prolonged treatment. Moreover, chlorosis is a disease which is extremely apt to recur, even after all the symptoms have been entirely removed for a time. Still, allowing for both of these explanations fully, I think there is reason to suppose that chlorosis is often regarded too lightly, and therefore treated with insufficient care. It appears extremely easy to diagnose a case of chlorosis—even at a glance: and then all that is necessary is to prescribe some favourite preparation of iron; and so the case is disposed of. And yet, after all, cases of chlorosis do require more care than this description represents; and they well repay us for a great deal of care, whatever kind of repayment we may happen to value most. Few cases give us so thoroughly the satisfaction of the consciousness of doing good; for we know, when we are treating a case of chlorosis carefully, that we can expect to restore to health and strength a patient who would have small chance of recovery without the aid of medicine. And the scientific interest of such cases is far greater than those practitioners think who dispose of cases of chlorosis summarily as too simple to need special consideration. And if we must go to the lowest standard of interest, I may say that we may get as much κυδος out of cases of anæmia satisfactorily treated as from any other form of disease. Niemeyer ascribes his rise in professional reputation to his successful treatment of anæmia; and I see no reason to be surprised at such a fact.

I shall not attempt any very exact definition of chlorosis or chloroanæmia. I doubt whether any strict definition is possible. It is generally understood that typical chlorosis is a form of anæmia which is spontaneous, at least not caused by hæmorrhage. But we often see cases which we cannot practically separate from chlorosis which plainly took their origin from menorrhagia. And many authorities regard premature menstruation as a frequent

cause of true chlorosis. On the other hand we find some cases of severe chlorosis which have been caused by some profound mental shock (such as fright or grief); and these cases often touch the boundary of pernicious anæmia. And although chlorosis is to be regarded as in general a disease of young women, there are some cases of spontaneous anæmia in boys which have no evident marks of distinction from the disease which is found so much more commonly and in a more accented form in the other sex.

There is rarely any difficulty in recognising the presence of anæmia; and it is usually obvious enough in the patients who come to us complaining of its symptoms. But there are cases in which some care might enable us to recognize commencing chlorosis, before it had become so evident, in patients who present themselves on account of some other ailment. In such circumstances a little care might enable us to suggest treatment which would prevent the development of anæmia in a more pronounced form. But far more commonly the difficulty is not to recognize the fact of anæmia, but to distinguish the conditions underlying it. It is by no means safe to assume that an anæmic girl is necessarily chlorotic; and it is still more rash to dispose of her case without careful inquiry whether she may not be chlorotic, and suffering from something else beside. In regard to the first point, Fagge gives incidentally a very useful hint, viz., that where anæmia is very suddenly developed there is reason to suspect that it may be due to some concealed hæmorrhage. He instances a case of this kind due to hæmorrhage from an ulcer in the rectum, which was not discovered until the patient had been under treatment for some days. The patient was either unaware of the bleeding, or else had not mentioned it from motives of delicacy. Another point is this: Patients suffering from chloroanæmia—*and nothing else*—as a rule tend to gain flesh rather than lose it. Whenever in connection with anæmia there is any wasting, we must consider very carefully the possible existence of some grave organic disease; especially the question should be raised whether the anæmia may not be the result of the presence of tubercle. Not only should the lungs in such cases be carefully examined, but the temperature should be taken, if possible, repeatedly. And the possible existence of hitherto latent Bright's disease must never be forgotten. Those who oftenest test the urine, as a matter of routine, will oftenest be surprised by detecting albuminuria where there had been little or nothing to suggest its presence.

But when, having excluded the graver conditions which may lead to anæmia, we are satisfied that we have a case of chlorosis to deal with, our investigation is by no means complete; having settled, at least provisionally, the cause of the anæmia, we have yet to consider its consequences in the case before us. Perhaps the first

and most important question that should present itself is, the possible presence of an ulcer in the stomach. This is a far more common disease than is supposed by many, and it is necessary to remember that the symptoms of it are often far from well marked. Indeed it must be admitted that an ulcer often exists without giving any sufficient evidence of its presence, even to the most careful enquirer. In the view of some there is little practical importance to be attached to the recognition of gastric ulcer in cases of chlorosis; cure the anæmia, say they, and the ulcer will cure itself. But, while there is no doubt a good deal of truth in this, we must recollect that if proper special treatment for the ulcer, in the way of restricted diet and otherwise, is not adopted in the meanwhile, there is a certain amount of risk of death taking place from hæmorrhage or perforation, before the treatment of the general condition has led to the healing of the ulcer. And the rarity of such a catastrophe should not excuse us for neglecting to take precautions against it.

Lateral curvature of the spine is a rather common accompaniment of chlorosis. I think that the surgical authorities speak of chlorosis as a possible result of curvature. But my own impression is that more commonly the muscular weakness, which results from the anæmia, helps to develop the curvature. Anyway lateral curvature, in greater or less degree, is not unfrequently present in connection with chlorosis. And it is the more easily overlooked because the pains, which might otherwise have called attention to it, are taken to be part of the direct results of the anæmia. It is not of course necessary in all cases of chlorosis to institute an exact and thorough examination of the spinal column. But the possibility of a hitherto unobserved curvature should not be forgotten. And it is hardly necessary to remark that a very serious degree of lateral curvature may be unnoticed by the patient or her friends.

There is, however, another possible consequence of chlorosis (especially when it has been long neglected) which is of more practical importance, and requires more extended consideration. I believe it has not been hitherto generally recognised that chlorosis is a possible cause of mitral regurgitation, which may, or may not, be permanent after the anæmia has been cured. Balfour believes that the systolic bruit heard over the right base of the heart (which is commonly referred to the pulmonary valves or artery) is really a sign of regurgitation at the mitral valve, which is itself due to dilatation of the left ventricle. I do not propose to bring under discussion the vexed question of the significance of this basic murmur; but I believe there is sufficient evidence of the tolerably frequent occurrence of mitral regurgitation, evidenced by all the usual signs, and caused by anæmia through dilatation. Dilatation I regard, not merely as a possible result of anæmia, but as almost constant when chlorosis has advanced sufficiently to

cause troublesome symptoms. In such cases I have almost always found the apex beat in the nipple line or external to it. I can, indeed, only recollect one case in which the cardiac impulse was in the normal position: although I must admit that I have not registered my observations on this point in my notes in all cases; so that I must speak from memory.

As to mitral regurgitation, of course a systolic bruit, heard at the apex, is not of itself sufficient evidence. But when there is a bruit heard at the apex, and in the axilla, and at the angle of the scapula, I think few would hesitate to diagnose the existence of regurgitation, whatever might be said as to its cause. I have found this so often in connection with chlorosis, and in the absence of a history of the ordinary causes of valvulitis, that I am persuaded that there is a strong probability that chlorosis is capable of producing mitral regurgitation in the way already suggested. In some of my cases the physical signs of mitral regurgitation disappeared after treatment: in others they were persistent, even when the anæmia was cured. On looking over my notes of cases of chloro-anæmia that have been under my own care, in hospital and private practice, I find the following results:—

In 78 consecutive cases I found—

A systolic bruit, audible at the apex in 30 cases:

Audible also in the axilla in 17 cases:

Audible also at the angle of the scapula in 10 cases.

In about half of these last cases the cardiac bruit entirely disappeared under treatment.

I should sum up the results of my observations in the following propositions:—

1. Chlorosis gives rise to dilatation of the heart as a practically constant result of its existence in sufficient degree to cause troublesome symptoms. This dilatation often persists, more or less, after the anæmia is cured.

2. In some instances this dilatation extends to such a degree as to cause regurgitation through the mitral valve, evidenced by all the usual physical signs. Sometimes, but not always, the physical signs of mitral regurgitation disappear when the anæmia is cured, or even while it is under treatment before the cure of the anæmia is complete. It may be suggested that where mitral regurgitation persists after the anæmia has been cured, there may have been some deformity of the mitral valve produced, independently of the chlorosis, by some cause not revealed in the history of the case. I am prepared to admit the possibility of this; and in some of my own cases I suspect this to have been the true explanation. But my impression is, that it is not so always. In fact, I believe that chlorosis may lead to permanent, incurable heart disease, although rarely.

In the 78 cases of chlorosis there was good reason to believe that an ulcer of the stomach existed in five.

One other point which my notes have brought before me is, that chlorosis is a family disease. This must be well known, although it is not much referred to by authors, I believe. In two families I found three sisters suffering from it. And in three others, two sisters were affected; and in one of these instances an aunt also suffered. These were all under my own observation; but several of my patients have told me that they had sisters who were troubled with symptoms like their own.

Dr. Oliver: This is one of the most interesting, as it is one of the most valuable papers which have been contributed this session. I heartily thank Dr. Coley for drawing our attention to a very common diseased condition, and the many side-lights which he has thrown upon it. With the relation of chloroanæmia to tubercle, to which Dr. Coley has alluded, I think we all agree. Again and again the only symptom or physical sign of the pretubercular stage of a phthisis is anæmia. I cannot say that I have noticed the frequent association of spinal curvature and anæmia, to which my attention has been drawn, but that is perhaps because I have not sufficiently examined for it; but for the future I shall be more on the outlook. I was interested mostly in regard to the association of anæmia and cardiac troubles; and here at once I would say that I quite agree with Dr. Coley when he says that in not a few of these cases a mitral systolic murmur persists, so that years after it is still there; and consequently a mitral regurgitation may be the permanent outcome of a long-continued anæmia. Of that I am quite convinced. Five years after an anæmia I have found a systolic mitral murmur present; in other cases no murmur is present, but the displaced and increased radiating apex beat have testified to the existence of a dilated left ventricle—the cardiac remnant of a previous anæmia.